MARCH, 1938 • 20c

Better Farming Methods

For Vo-Ag Teachers, County Agents, Soil Conservationists, and Extension Specialists

Agricultural Husbandry Issue

Farmers are good teachers!
What's new in husbandry?
What's happening in soils?
What is husbandry?
Tips on selecting a camera

What next
from Pfizer and the feed industry?

NEW "TRANQUILIZING" DRUG
BOOSTS GAINS, SAVES FEED!

Since their introduction in 1954, tranquilizing drugs have helped at least 20 million Americans calm down jumpy nerves, pacify butterfly stomachs and obtain "peace of mind".

Now, feed industry scientists have found that tiny amounts of a newly discovered member of the tranquilizing drug family will speed up livestock gains!

Feeding trials at the Pfizer Agricultural Research and Development Center show that just a teaspoonful of this new drug called Tran-Q is enough to boost gains of 1,000 steers for a 100-day feeding period. Animals also needed less feed to put on the extra gains.

Improvements in gain and feed efficiency are in addition to those obtained with other known growth boosters such as Terramycin and stilbestrol.

For example:

In an 84-day feeding trial, steers getting a regular feedlot ration plus Terramycin made 11% greater gains and used 13% less feed than animals getting the regular ration alone.

When Tran-Q was added to the Terramycin-fortified ration, there was a FURTHER 12% gain and a 7% improvement in feed efficiency!

In work with lambs, Tran-Q improved rate of gain as much as 28% and feed efficiency up to 20%.

Feeds containing Tran-Q or Terra Tran-Q, a combination of Terramycin and Tran-Q, will soon be available from many feed companies—another of the industry's many services to help you produce more meat on less feed.

What next from Pfizer—and your feed man? Right now they're experimenting with higher levels of Tran-Q and other tranquilizing drugs to calm down excitable and ornery animals. This will help you prevent weight losses and disease at times of stress.

Science Comes to the Farm in a Feed Bag

Pfizer

TRAN-Q® TRADE MARK REG., U. S. PAT. OFF.
TERRA TRAN-Q® TRADE MARK REG., U. S. PAT. OFF. TERRAMYCIN® BRAND OF OXYTETRACYCLINE

Pfizer Agricultural Research and Development Department

Berry production up 300% with polyethylene film mulch

John Y. Hayakawa of California's Santa Clara Valley grew these strawberries through a plastic mulch of black film made of BAKELITE Brand Polyethylene. Read his report:

"*Production was four times that for uncovered rows.*

"The film kept the berries off the ground – kept them dry – sharply reducing decay due to heavy rain.

"Weeds were 100% eliminated.

"The opaque film prevented sunburning by reflected temperatures. It kept soil warm for hours after sundown.

"The berries colored more uniformly and rapidly, but without overripening. There were *no* half-white, half-red berries."

Want more facts on the use of film made from BAKELITE Brand Polyethylene for mulching? Write Dept. BN-16, Bakelite Company, Division of Union Carbide Corporation, 30 East 42nd Street, New York 17, N. Y.

It pays to know about **BAKELITE** BRAND **PLASTICS**

UNION CARBIDE

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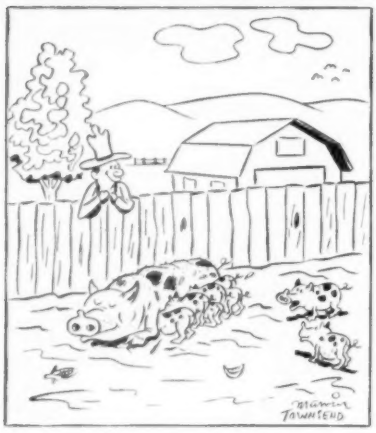
JASPER TWEED



"HOW UNSANITARY CAN YOU GET?"

Coming Events

March 3-8—Southeastern Fat Stock Show & Sale, Ocala, Fla.

March 6—Tenth Annual National Pasture-Forage-Livestock Conference, Livestock Exchange Bldg., Omaha, Nebr.

March 1-8—National 4-H Club Week.

March 9-11—Fourth Annual American Aberdeen-Angus Conference, Fresno State College, Fresno, Calif.

March 12—13th Distillers Feed Conference, Sheraton Gibson Hotel, Cincinnati, O.

March 20-21—The University of Maryland Nutrition Conference, Shoreham Hotel, Washington, D. C.

March 20-22—Fourth Annual Conference, National Association of College Teachers of Agriculture, Arkansas State College, Jonesboro, Ark.

April 21-26—Department of Audio-Visual Instruction National Convention, Minneapolis, Minn.

May 1-2—Annual National Land, Pasture and Range Judging Contest, Oklahoma City, Okla.

May 4-10—National Home Demonstration Week.

June 9-13—Florida FFA State Convention, Daytona Beach, Fla.

June 22-25—51st Annual Meeting, American Society of Agricultural Engineers, Santa Barbara Campus, University of California, Santa Barbara.

July 7-11—Florida Vocational Agriculture Teachers Association Conference, Daytona Beach, Fla.

July 26-29—National Audio-Visual Association Convention, Hotel Morrison, Chicago.

October 6-11—6th Annual International Dairy Stock Show, International Amphitheatre, Chicago Stock Yards.

Better Farming Methods

Professional Magazine for Leaders Who TRAIN and ADVISE Farmers.

March, 1958 Vol. 30, No. 3

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MEMBER NATIONAL AUDIO-VISUAL ASSOCIATION NAVA

PUBLISHED MONTHLY ON THE 1ST OF THE MONTH BY WATT PUBLISHING COMPANY, MOUNT MORRIS, ILLINOIS

BPA NBP

Here's the New Crest in Farm Power

Again, in a brilliant new tractor fleet, Oliver has put power to work in exciting new ways to make farming easier and more efficient.

Here, from the industry's design leader, comes a bold new *look* in power. A new freshness in line, a new brightness in special colors of meadow green and clover white. And a buoyant new *feel* of power in every inch and ounce of every new model. A spirited new response from smooth, big-power engines.

There's more of everything, all around. Take the new row crop 770 and 880 models. They're up in horsepower—well over the 50 mark on the drawbar in the new 4-5 plow 880. There's new booster power in every working speed, plus more pulling power with a new hitch, power-shift wheels and power steering.

These superb new Olivers were developed to give farming a new lift, to present a new concept in the look and feel of power, to set a new standard in tractor utility.

The OLIVER Corporation, 400 West Madison Street, Chicago 6, Illinois.

OLIVER

OLIVER

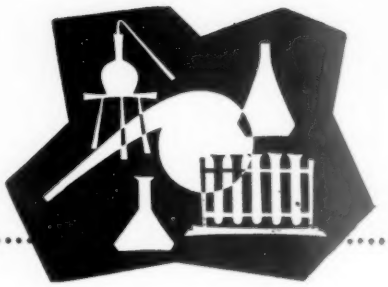
"FINEST IN FARM MACHINERY"

Also Manufacturer of the Famous Oliver Outboard Motors

Designed to do everything, go anywhere. New all-purpose 550, a 2-3 plow model powered right, sized right for any farm, to handle hundreds of jobs with unusual economy.

Talk of the tractor world, and representative of Oliver's big-tractor line, is this 6-plow 995 GM Lugmatic with a truly automatic torque converter that offers 35% more lugging horsepower.

Keeping up in AGRICULTURE



Bees Should Buzz Over This Discovery

A bee-repelling insecticide, discovered by Oklahoma Agricultural Experiment Station scientists, looks promising as an aid in keeping bees away from fields sprayed with a deadly insecticide. It's already proven that the material will keep bees away from treated areas from 8 to 48 hours. Now researchers are wondering if the repellent affects seed or fruit production. The Oklahoma researchers believe their new compound, called Hydroxethyl-tert-octyl sulfide will prove of immense value in saving bees. They note: "Our findings are particularly applicable to crops that depend upon good pollination for proper seed development."

Chickens Aren't Choosey, Research Shows

Modern-day farmers, it appears, don't have time to become accustomed to one idea before researchers uncover evidence that makes the practice out-dated. Take broiler rations, for example. Most farmers consider their birds need the highest quality, most concentrated feed ingredients available. Now along come researchers and say that broilers fed yellow corn with 55 percent damaged kernels gained faster than those fed Number 1 yellow corn. To add to the confusion, these same experiments proved that female broilers eating corn damaged 30 percent from mold gained more than those fed Number 2 yellow corn.

USDA Decision—Methoxychlor Dust OK

A recent announcement by the USDA's Agricultural Research Service should slow the pace of tail switching among the nation's dairy cows. The ARS verdict—Methoxychlor is recommended for control of hornflies on dairy cattle when applied as a dust treatment. The USDA does not recommend the use of this insecticide as a spray applied to dairy cows for the control of any pest. However, they do recommend methoxychlor as a residual treatment for control of stable flies and horseflies around dairy barns.

Cows are Making Pigs of Themselves

Researchers at Washington State College are encouraging dairy cows to eat like pigs, according to a recent report from them. They're trying to answer the question, "Can a cow eat dinner in 8 minutes?" The purpose is to see what effect pelleted grain rations will have on the cow's eating speed in walk-through milking parlors. Twenty cows are being used in the experiment. As an incentive to faster eating, the animals are being given more than they can eat in 8 minutes. Then, if milking is completed in 8 minutes, the cow is released from the stall, but if milking is still in process, a plywood cap over the grain lets bossy know that dinner is over. This study will be completed by November 1, says Dairy Scientist T. H. Blosser.

Economists Study Farm Investments

No one doubts that today's farmer has plenty of cash tied up in his operation, but USDA research economists wanted to find out just how much investment a farmer needed to earn a comfortable living from his farm. These research economists found that family farm operators need an investment of $14,000 to $89,000, depending on the location and type of farming to realize $2,500 per year for their labor and investment. To realize annual earnings of $3,500, farm investments range from $17,000 to $122,000 per farm. The study also revealed that for every 100 commercial farms in 1930, there were only 73 in 1954. However, during this same period, the number of farm operators who sold more than $5,000 worth of farm products increased over 50 percent.

New Ammunition for the Boll Weevil Battle

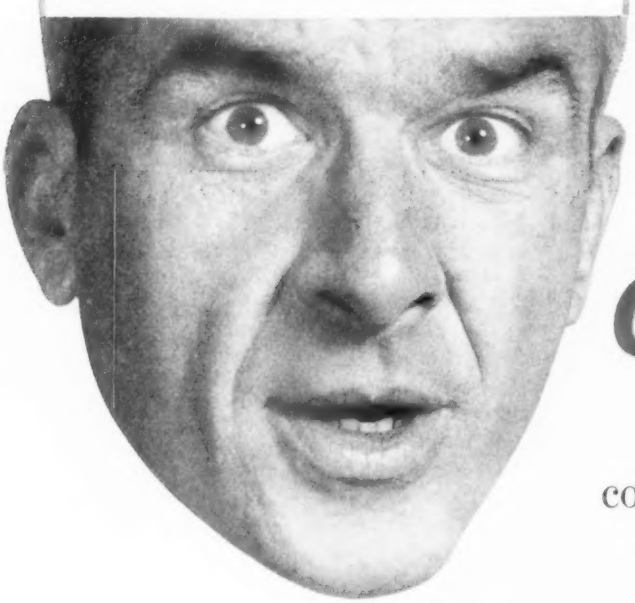
A new semi-synthetic diet for boll weevils has been developed by USDA and Texas Experiment Station scientists which may aid basic research leading to more effective control of boll weevils. This concoction may be the potion needed to speed up a solution to the problem of resistance this pest is showing to insecticides. The specially prepared weevil food is suitable for rearing both larvae and adults and will help assure a continuous supply of weevils of known age and lineage for experimental use. This will largely eliminate the dependence on natural and seasonal sources of supply. What's more, the diet may also help in developing an attractant that will lure boll weevils to their doom.

Beef Production Doubled in Tests

University of Minnesota researchers report that steers receiving ground ear corn and implanted with 24 milligrams of stilbestrol, on fertilized pasture, could produce 582 pounds of beef per acre. This was worth about $90 after feed and fertilizer costs. Steers on unfertilized pasture that received no grain or stilbestrol produced only 254 pounds of beef worth about $56 per acre. This means about a 60 percent increase in profits from the use of grain, stilbestrol, and fertilized pastures. Stilbestrol implanting alone increased the beef produced per acre by 16.4 percent, while feeding ground ear corn brought a 37.8 percent increase.—*End*

What?

Can anything be better than NICARB* for coccidiosis?



Yes!

GlyCamide*

The new, safer coccidiostat from **Merck,** the makers of NICARB*

As you know, NICARB, a product of Merck research, has practically wiped out coccidiosis as a threat to broilers and replacement flocks. But, as nearly perfect as NICARB was—and is—in preventing coccidiosis in young and growing stock (a record of achievement in *over three billion birds*), it did leave one area for improvement: NICARB could not be fed, at broiler levels, to breeders, or other birds in production, without side effects.

Now—a potent, safe drug for birds of all ages—A program to test and screen other drugs to find a coccidiostat with the potency of NICARB, but without its side effects, was initiated at the Merck Research Laboratories. The result of that intensive laboratory search, rigidly tested under practical field conditions, is now available to the members of the poultry industry. That product—a proud companion to S.Q.® and NICARB—is GLYCAMIDE.

Continuing leadership in coccidiosis control—If you have used or recommended S.Q. or NICARB you already know of the Merck assurance of quality that stands behind these time-tested products. With the same assurance you may now specify GLYCAMIDE for chicks of all ages! GLYCAMIDE is the most potent drug ever developed for the prevention of coccidiosis outbreaks. It is also one of the safest drugs of its kind. Fed at recommended levels, it will not interfere with subsequent fertility, hatchability, eggshell pigmentation or internal egg quality. However, GLYCAMIDE is not currently recommended for birds in production. Merck & Co., Inc., Chemical Division, Rahway, N. J.

*Trademark of Merck & Co., Inc. for glycarbylamide.
®Merck & Co., Inc. for nicarbazin and sulfaquinoxaline.

Choose the coccidiostat that suits your needs – *NICARB—for broilers—S.Q. for turkeys—and GLYCAMIDE—the universal coccidiostat—for broilers, and replacement chicks for laying and breeding flocks.*

Research and Production for Better Poultry Health and Nutrition

MERCK

GlyCamide
with **THE MERCK MARGIN OF SURETY**

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WASHINGTON NEWS

The 1958 Farm Picture

What can you expect Congress to do—and not to do—about farm proposals put forward by Messrs. Eisenhower and Benson?

We have put that question, in various ways, to lawmakers, USDA officials, and farm organization leaders in Washington. Here, in a nutshell, is what they tell us:

Price supports. The present legal minimum floors under dairy products and "basic" crops will be maintained at 75 percent of parity. Mr. Benson's request for 60 percent floors has met with loud outcries from Democrats and a thunderous silence among GOP farm leaders on Capitol Hill. The Secretary is expected to succeed, however, in reducing wheat and dairy supports this year to the 75 percent minimum. Dairy-wheat area lawmakers figure to fail in attempts to freeze wheat-dairy props at '57 levels.

Soil bank. Everybody seemed to be agreed that the acreage reserve should be given final rites and consigned to limbo after this year; also that the conservation reserve ought to be expanded.

REA. The Administration asks for higher interest rates on loans, and wants the electric co-ops to get at least part of their money from private sources. Congress is looking the other way.

USDA budget. Few of the reductions suggested by the department would take effect in the new fiscal year. Most of the proposed cuts won't be approved by Congress in any case—for instance, the sharp slash USDA wants to make in ACP conservation payments starting in calendar year '59. Extension budget proposed by the Administration is exactly the same amount as has been available in the present fiscal year ending on July 1. Overall, farm spending will continue at the current rate of about $5 billion yearly.

By Jay Richter
Agricultural Services
Washington, D.C.

Corn & feed grains. There is general agreement corn should come off the "basics" list and be supported on an equivalent basis with other feed grains. There is also near-unanimity on the need for some reduction in current output of feed grains. The extent of corn-feed grain support, and form it should take, are matters of sharp debate.

Other. Agreement will be reached, judging by all the signs, to continue these programs: (1) School milk, (2) direct payments for wool, (3) an expanding search for increased industrial uses of farm products, (4) the "480" law that allows sale of surpluses for foreign currencies.

No Raises for Extension

The number of jobs and pay for county agents and other Extension workers will remain at about the same level as now for at least another year, according to officials here.

They hasten to add, however, that this estimate is a nationwide generalization.

Individual states in the current fiscal year are providing a bit more than 60 percent of total Extension funds. Some of them may be adding staff and increasing salaries.

Most state legislatures, however, won't meet again until 1959 and therefore Extension services generally will roll along with what they have.

USDA's Extension budget for next fiscal year, meantime, has been presented to Congress. The department is asking $50,715,000 for payments to states, the exact amount to a dollar that has been available in the current year. The figure for the Washington Extension office is also precisely the same or $2,096,540. Ditto, payments to state experiment stations, the figures for both years being $30,603,708.

Congress is expected to make little if any change in the budget figures.

Note: Out of the $50-million-plus in the new budget for Extension payments to states, would come $1,495,000 for agricultural marketing work, and $890,000 for Extension's part of the Rural Development Program. These figures, as in the case of the others, exactly equal the amounts actually appropriated for RDP and marketing work during the present fiscal year.

More Vo-Ag Funds?

Vocational education people here in Washington are tying requests for "new" money to a giant; namely,

the national defense-education program to boom training in science, mathematics, and engineering.

It makes perfect sense to join vo-ed to the giant, argues M. D. Mobley, executive secretary of the American Vocational Association. "Some people don't seem to realize that for every engineer there is need for some 5 to 10 technicians and scores of skilled workers," says Mobley, and they are the "product of vocational education."

Specifically, the AVA leader is pushing for $20 million yearly in "additional" vo-ed funds for the "establishment and maintenance of area vocational programs" to develop skills "essential to national defense."

The skills concerned presumably would include vo-ag work since food is considered essential to the country's defense.

Provision for the increased vo-ed appropriation is part of a vast defense-education plan proposed in a bill introduced by Senator Lister Hill of Alabama. The $20 million vo-ed fund would be authorized annually for 6 years with apportionment to states on the same basis as in the past.

Controls for Farmers

Extension and vo-ag people probably will find a new book stimulating even though they may disagree with its conclusions.

It is "Farm Prices—Myth & Reality", just published by the University of Minnesota Press at Minneapolis.

The author is Minnesota economist, Willard W. Cochrane.

Cochrane argues for facing up to the fact that farmers like everybody else must control output to fit demand, setting quotas on production commodity by commodity.

Farmers eventually will accept controls, he says, "in the same way that they do driving on the right hand side of the road."

Unretouched picture of Roeland de Wilde III and his ingenious Vapam® applicator at work at the Rhodo-Lake Nurseries, Shiloh, N.J.

Vapam Soil Fumigant Must Be Good To Inspire A Rig Like This

Why else would anyone take a perfectly good rototiller and convert it into a special rig for applying Vapam?

Simply because this very *special* soil fumigant wipes out sub-surface parasites so effectively – at such reasonable costs per acre.

In nurseries and new orchard sites, in commercial seed beds and large acreage planted to vegetables, Vapam controls weed-seeds, fungi, nematodes, club root and other soil-borne diseases. It penetrates the soil deeply . . . leaves it *clean* as a whistle.

Vegetables, ornamentals, nursery stock and young fruit trees grow *stronger* in clean soil...yield richer harvests, bigger profits.

Commercial growers can apply Vapam with a rototiller, bedder or injector. You can even introduce Vapam into most irrigation systems.

Vapam is soluble in water, requires no ground covers or other special equipment.

See your local dealer today. He'll tell you when to apply Vapam for best results. Also ask him about Stauffer's complete line of farm chemicals, including Trithion®, and Captan.

Stauffer CHEMICALS SINCE 1885

®Vapam is Stauffer Chemical Company's registered trade mark for *sodium methyl dithiocarbamate* soil fumigant.

New York · San Francisco · Houston · Omaha · Los Angeles · Tampa
North Portland · Weslaco · Lubbock · Harvey · North Little Rock

Spotlighting COMMUNICATION METHODS

to help ag leaders get farm people to accept new ideas

By Gerald McKay
Audio-Visual Specialist
University of Minnesota

Use The Active Voice

The active voice usually makes stronger sentences than the passive voice. It puts life and excitement in your news stories. Did you ever think how nursery rhymes would sound written in the passive voice?

Listen to this: "Hey diddle diddle, the cat and the fiddle, the moon was jumped over by the cow. To see such sport was laughed at by the little dog, and the spoon was run away with by the dish."

The verb is in the ACTIVE voice when the subject does the acting. It is in the PASSIVE voice when the subject is acted upon. . . . . *Oregon Extension Service*

Photos of Your Speakers

If you're having a speaker from your land grant college, get a mat to be used with the news story announcing his coming. The state college information service probably can send you a mat of any state staff member. Mats are inexpensive and can be used by most weekly papers.

If you give your local paper a photograph instead of a mat, allow at least two extra days for a cut to be made.

Multiple Slide Desk Viewer

The Mast Development Co., 2212 East 12th Street, Davenport, Iowa, makes a new convenient slide viewer, the "Pictar Slide Editor." It will hold 20 two by two slides and has a series of narrow shelves so they won't slip off. The bluish-white screen provides even diffusion of light from a 40-watt incandescent lamp.

Complete Course on Film

Filming of the first complete course in high school chemistry will be carried out at the University of Florida. It is to be completed in time for the opening of school next fall. The film will be produced by Encyclopaedia Britannica Films and is financed by the Ford Fund for the Advancement of Education.

Ping-Pong Balls as Visuals

Don Stark, extension agricultural economist, Michigan State University, uses ping-pong balls as visuals in a series of livestock outlook meetings. Ping-pong balls with the months and livestock quotations printed on them are distributed through the audience.

When Stark discusses this portion of the outlook program, he calls for the ping-pong balls from the audience and places them on a flannelboard with small pieces of Flexowax mounting wax to show the trend in the livestock situation.

TV and Newspapers

Research reported by NPAC at Michigan State University, indicates that newspaper reading usually will not be affected by the competition of television. This is on the assumption that the community is approaching saturation in television.

The report also indicates that morning *radio* listening in TV homes will be relatively unaffected by the competition of TV. Evening radio listening, however, will tend to be highly limited.

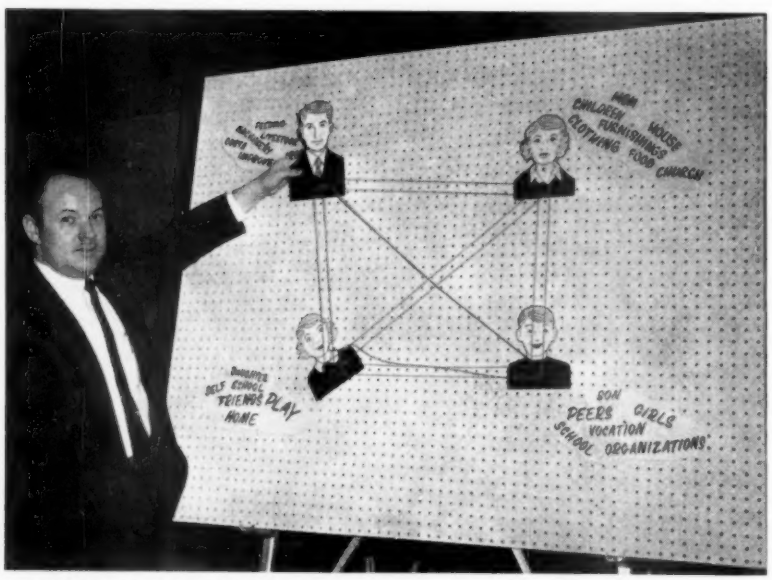
Are Your Letters Personal?

When you send the same letter to several people, do you word it so each recipient feels that he's the only one you're writing to? Perhaps you can refer to the person by name in the body of your letter. Leave space for his name at the end of a line. If you're writing about dairy cattle, mention his particular breed. If it's a 4-H club program, refer to the name of his club. These special words can be inserted easily in your letter if a careful job of duplicating is done.

Light Your Display

Color may be the difference between a good and a poor display, and one way you can get it is by using colored light. A display kit complete with eight colors—four basic and four pastel—is available from National Equipment Corp., 919 Broadway, Kansas City, Mo.

The kit includes a motor driven color wheel which turns eight times a minute. The wheel can also be held



PEG BOARD STORY—Charles Martin, family life specialist at the University of Minnesota, uses this peg board to show family relationships. The cut-outs representing individuals are fastened with pegs. The colored string illustrates interacting forces.

stationary on one color. In addition to eight gelatin color lenses which come with the kit, others are available which can be used in combination to make 96 shades.

Make Silk Screen Posters

With ready-made silk screen kits, posters for announcing agricultural events can be made easily by any vo-ag instructor or county agent. For occasions where from 10 to 100 posters are needed, silk screening generally is the most feasible way to do the job. With larger orders, the printing press may be more economical, and orders for less than ten can likely be done best by hand.

The Value of Authority

When you quote an authority in news stories or radio broadcasts the credibility of that authority may influence the impact on your audience. According to Hovland and Weiss reporting in *Public Opinion Quarterly*, people will tend to consider that high credibility sources usually present fairer messages than low credibility sources. Material from high credibility sources will be considered more trustworthy.

Another Projector Use

There has been a rather general understanding that large transparencies such as 6 by 6 or 10 by 10 inches could not be used in opaque projectors. In fact, that feature has been pointed out as a disadvantage of the overhead projector and large transparencies.

Actually, the opaque projector will show them very effectively if a heavy sheet of white paper is placed beneath the transparency. This enables you to use the same material with either projector under a wider variety of conditions. It makes possible greater mileage from your visuals.

Painting With Light

If shadows are a problem in photographing certain three dimension subjects, try painting with light. Put your camera on a tripod, set the shutter on time and the lens opening at f/22.

Then with a 60-watt lamp in a hand reflector, play the light in a continuous motion over the subject. The time can be anywhere between five and forty seconds depending on the kind of film in your camera and the relative light around your subject. This technique obviously will not work with subjects which are moving. It will work well, however, in a number of situations.—*End*

Needed:

"General Practitioners" in Transportation

Today, public policies place artificial and severe restrictions upon the opportunity of any one form of transportation, such as railroads, to serve the public through the use of other means of transportation, such as that by highway, waterway or airway.

Yet, in other industries, diversification of products has become common, and has proved beneficial both to those industries and to the public.

Why shouldn't our transportation agencies, too, be allowed to benefit by diversification?

Clearly, diversification would be to the advantage of the nation's shippers. They could then arrange for their transportation through a single transport company which could utilize any or all means of carriage needed to do the particular job at hand most efficiently. That's why the railroads ask for removal of present artificial limitations.

They seek only the same opportunity as anyone else to enter into other fields of transportation. Then they could become "general practitioners" in transportation — using a wide variety of facilities to serve you more efficiently.

Isn't this common sense?

ASSOCIATION OF AMERICAN RAILROADS
WASHINGTON, D. C.

NICHOLS

Top Choice for 4H and FFA Projects

For many years, broilers based on Nichols females have made outstanding records all over the country in Chicken-of-tomorrow and other projects. Their outstanding vitality and health result in faster growth, better feed conversion and higher livability in all climates and with every type of growing condition.

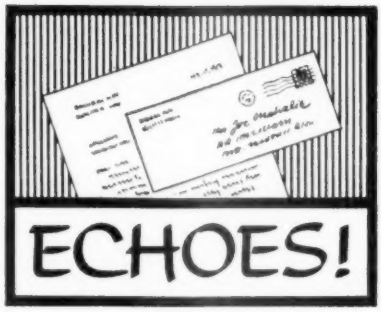
Nichols extensive research program is assurance of continuing top performance by all Nichols-based broiler crosses.

FREE —

CHIRPS, a valuable poultry management guide, is published 6 times a year. It contains a wealth of practical information on feeding, housing, disease control, management hints, etc.

We'll gladly add your name to our mailing list for *free* copies.

Nichols
INCORPORATED
EXETER, NEW HAMPSHIRE



BFM Reader Again . . .

Dear Sir:

Your excellent magazine, "Better Farming Methods," was received when I was located at our Texaco Research Center at Beacon, N.Y. Apparently my change-of-address card did not reach you. Would it be possible to add my name to your list again?—*C. L. W. Swanson, agronomist, The Texas Company*

Mr. Swanson, we're pleased that you want to get Better Farming Methods. Your name has been added to our mailing list.—Editor

Integrated Hog Production . . .

Dear Sir:

In your editorial on page 50 of the January 1958 issue, a reference was made to a recent move toward integration in hog production.

I would like to know if this company is in the state of Illinois, whether this operation will cover only a compact area in one state or several states, and lastly, the name of the company if it can be released.

Thank you very much for mentioning this interesting viewpoint.—*Al Torvi, extension economics assistant, TSH University Farm, St. Paul 1, Minn.*

Dear Mr. Waddle:

I read with much interest your editorial in the January issue of "Better Farming Methods."

I am particularly interested in contract farming as applied to hogs. I've talked with several feed dealers about this, but I feel that I need more concrete information before recommending pig parlors, etc., to farmers in my area.

I will be most appreciative if you will send me all the information you have available on this subject or put me in touch with this information. I would also like to know the name of the milling company mentioned in your article so that I could contact them.—*Tom Walker, assistant county supervisor, Anderson, S.C.*

The letters we received from our readers about this reference to integration in hog production indicate that ag leaders everywhere are concerned about the trend toward contract farming. Better Farming Methods will carry a special article on this change in the nation's hog farming next month. By the way, the company reader Torvi asked about is the Staley Milling Company, Kansas City 16, Mo.—Editor

Vo-Ag Graduate Surveys . . .

Dear Mr. Waddle:

I was very much interested in your article on page 47 of your January issue entitled "Do Vocational Agriculture Graduates Stay on the Farm?" A summary of a study conducted by Dallas R. Siler, teacher of vocational agriculture at Coolidge, Ariz., on the same subject indicates that 37 percent of the former students in vocational agriculture were farming and 15 percent were in agricultural work related to farming for a total of 52 percent engaged in agriculture and related occupations.

It should be emphasized that this survey included boys who had completed only two years of vocational agriculture. It would seem that if it had been restricted to individuals who had completed three of four years of vocational agriculture, the group in agricultural occupations would have been proportionately larger.—*Bob E. Taylor, state supervisor, agricultural education, Phoenix, Ariz.*

Dear Mr. Waddle:

On page 47 of the January issue, there was an article entitled "Do Vo-Ag Graduates Stay on the Farm?"

When I read this article I got the impression that vo-ag graduates do not stay on the farm. I am inclined to believe that others both in the field and outside would be critical of a program that places so few of its graduates in the field for which they are trained.

Although the article was of interest so far as the fact that the graduates are scattered around the globe, I believe that vo-ag departments throughout the country are placing many more of their graduates in farming than this article would lead one to believe.—*George W. Myers, vo-ag teacher, Lampeter, Pa.*

You will find reader Myers' survey of former students on page 30 of this issue. Thanks, fellows, for presenting the other side of the story on occupations of former vo-ag students.—Editor

Likes Helpful Booklets . . .

Dear Mr. Waddle:

I'd like to express our sincere appreciation for the excellent service your fine publication provides with the "Helpful Booklets" section.

We were simply amazed (and delighted) with the 192 requests for literature you sent us—typed on mailing labels. A service such as this cannot help but build up a wonderful reservoir of good will towards your book.

Thanks again.—*Robert R. Brown, product promotion manager, advertising & sales promotion, Monsanto Chemical Company*

As this letter expresses, we're all pleased with the way our readers respond to our offer of free teaching aids in the Helpful Booklet section of each issue. But, each month we get a dozen or so postal cards that don't have a name on them. Don't forget to put your name and address on the Helpful Booklet reply card.—Editor

Hoof Trimming Table . . .

Dear Sir:

Would you please send to me a list of the materials required to build the hoof trimming table shown in the January issue on page 16? This looks like a real handy piece of equipment.

Your magazine has been a big help to us on several occasions. We like it very much.—*Steve R. Dowell, county extension agent, Hood River, Ore.*

Gentlemen:

Please send me a list of materials for building the hoof treating table shown on page 16 in Better Farming Methods for January, 1958.

Your magazine is very helpful and we appreciate your courtesy in sending it to us.—*T. O. Scott, county agent, Charlottesville, Va.*

Dear Sir:

After reading about the feet trimming table and its results I would appreciate having the list of materials and plans for this table. We here at school enjoy reading your magazine and have found many interesting and useful articles as well as many helpful hints.—*Warren G. Bradley, vo-ag instructor, Center Ridge, Ark.*

Dear Sirs:

Will you please send me a copy of the plans for the revolving calf handling table that appeared in the January "Better Farming Methods"?

I would also like to tell you that I find your magazine very helpful in teaching vocational agriculture.—*M. F. Youtz, vo-ag instructor, Dysart, Ia.*

Your response to our offer for a list of materials for building a hoof trimming table was terrific. So far, we've sent out 157 material lists to interested readers. Best of luck with the table building.—Editor

January Editorial . . .

Dear Frank:

Liked your January editorial. In general, I liked it because you indicated the need for additional emphasis on marketing work in agriculture and because you stated very clearly that agricultural extension workers should give up the false notion that they must work entirely within the farm gate. In addition to working directly with farmers, much can be accomplished today that will aid producers by working directly with marketing agencies and other firms in the distribution pipeline.—*A. William Jasper, associate professor of marketing, Cornell University*

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What's the real meaning of this word . . .

Husbandry

By Alex Gordeuk
Editor, Turkey World

● IT MAY HAVE been true in the past that, all things being equal, the farmer who worked the hardest was the most successful. This is no longer so.

Farming, today, involves considerably more than just getting the necessary work done.

To understand the meaning of this word "husbandry," we need to look at some other phases of the overall farm picture.

Modern agriculture, whether it has to do with animals or plants (any living thing), consists of three phases. They include: (1) The CHORE phase, or the getting of work done; (2) the HUSBANDRY phase, or the understanding of the requirements of a living plant or animal; and (3) the BUSINESS phase, or the planning and methods used toward getting the highest returns from the efficient use of men, machinery, materials, money, and markets.

It cannot be emphasized too much that all three phases are more or less equally important, depending on the specific farming conditions involved. In contract farming, for instance, the contractor may perform a substantial part of the business phase. He may also supply a considerable amount of husbandry knowledge through skilled field servicemen.

After a farmer has thoroughly thought his operation through, and has come to understand the three phases as they fit into his farming program, he is ready to go on to the next two points. These are: (1) that all three phases are equally important. Any one phase should never suffer at the expense of another; and (2) that most farmers do NOT possess sufficient skills, aptitude, and knowledge to be proficient at all three phases of farming.

On a farm, getting the chores done is as important as knowing all about the plants and animals being dealt with, or in deciding what is best to do in borrowing money, buying machinery, finding the best market, or determining the breeding which will produce a marketable product most efficiently under your conditions.

All three phases inter-relate. A decision in one affects either one or both of the other phases at least to some degree. For instance, it becomes a matter of knowledge of all three phases when it comes to the working out of a design for a pole shed for raising turkeys.

The shed must permit the greatest possible comfort to the birds consistent with efficient use of labor and the lowest possible cost of construction. Selection of a feed-handling system for the pole shed as a matter of further detail should not be done on the basis of cost alone. Will it produce turkeys as well or better than the feeding system to be replaced? Will there be as little, or less, feed waste? How much labor will be saved? Is the feeder so designed as to permit a long life under hard usage? Will it increase or decrease bruising? In the end, will it be a sound investment, compared to the old system currently in use?

And, now we are at the crucial point. Even if you have accepted this concept of modern farming, it will be worthless, unless you put it to use. But, before you can put it to use, you must recognize that most farmers do not possess sufficient knowledge and ability to excel in all three phases as has already been pointed out.

Neither the farmer nor his hired help are apt to be good, hard intelligent workers, good husbandrymen, and good businessmen, all rolled into one. The farm owner should be honest enough with himself to recognize his strong and weak points. And he should make an effort to learn the strong and weak points of his hired people or staff. For the owner, then, it will become a matter of business judgment how to best use the human skills available to him, and to organize them accordingly.

Suppose, for example a turkeyman, knows agriculture, has a farm, understands the use of money and credit, and is good at finding the best market. And, suppose he has a top-notch hired man who loves farm work for its sake alone. Will he be a successful turkeyman? Not necessarily. He wouldn't have the area of the husbandry phase covered.

What can you do in a case like that? Perhaps the easiest solution would be to tie in with a feed company which offers the services of a skilled serviceman specializing in husbandry.

Or suppose another farmer likes to work and likes turkeys. So, he ends up putting most of his time in on these two phases. How might he cover the business phase of his operation? Well, he might work closely with an accountant made available by a farm organization, or perhaps by the state college, or even the bank. So, farmers shouldn't feel too badly if they cannot be a production manager, a senior husbandman, and a business manager, all rolled into one. The important thing for them to recognize is which one of the three they are not, and then to make certain that the hole in the line is plugged effectively. You can help farmers make these decisions.—*End*

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"protective feeding" with germ-starving drug boosts egg profits

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To get these results use a ration containing 2 pounds of nf-180* per ton of complete feed. Feed it 5 to 7 days each month and whenever stress is likely. Ask your feed dealer for popular brand feeds containing furazolidone or have him mix it with your ration. Either way, make sure that furazolidone (nf-180) is in the feed you buy. For the complete story, write for the Week-A-Month Protective Feeding folder.

* *2 pounds nf-180 per ton is expressed on feed tags as 100 grams furazolidone or 0.011%*

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Now's the time to plan a Livestock

Marketing School

By Hugh Caton

CARCASS INSPECTION—Farmers attending the Clackamas County Livestock Marketing School went into the coolers to see the carcasses of the animals they live-graded on the first day of the school, and experienced carcass judges explained the carcass quality and methods of merchandising the various cuts. Here, Earl Flick, left, points out a lack of marbling to Hugh Caton, Clackamas county agent, who wrote this article.

● CLACKAMAS COUNTY'S livestock marketing school, held last winter, was a "do it yourself" session fathered by a group of progressive stockmen who met in a special committee meeting eleven months prior to the school.

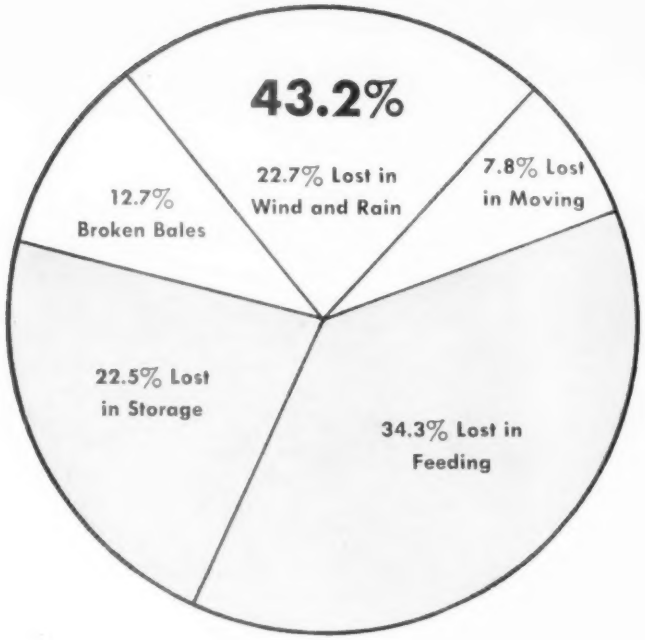
"Livestock marketing is our No. 1 problem," the planning committee agreed. It was one of more than a dozen groups, representing all phases of agricultural production, that met in special conference to take a long look at their needs, education-wise. They gave us in Extension the cue. It was up to us to project the idea into a full-scale program to help solve the problem.

Sponsorship of the school was assumed by the Clackamas County Livestock Association. In the two preceding years this band had sparked two other successful short courses; one dealing with feeding market cattle, another covering veterinary practices. The Association appointed a committee to work with the extension office, to keep the program on a practical level, and to do some of the leg work. They met with John Landers, Dean Frischknecht, and Bill Fowler, Oregon State College Extension Specialists, for preliminary planning.

Coordinating the specialists' part in the three-day program was left up to the specialists who sat with the planning committee, with much of the load falling on Bill Fowler's shoulders as livestock marketing specialist. Bill arranged for Extension Agricultural Economists Marion Thomas and Stephen Marks to take part in the program the second day of the school—this day dealing with principles of marketing and some of the theory behind the development of marketing systems. They talked about market news and cattle inventories and movements. Bill Fowler discussed seasonal marketing and John Landers covered the very interesting subject of transportation and shrinkage.

With the cooperation of Earl Flick, local packer, the county extension office planned a two-day livestock grading see-what-you've-done-type of demonstration designed for audience participation. This took the first and third days of the three day short course.

It was the internal fat that fooled the stockmen. They found that it is



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pretty hard to put a live grade on a critter that will stick when the Federal grader "rolls" the carcass with his grade stamp. More than sixty stock producers and FFA students attended the grading session and marked score cards in columns headed weight, grade, and yield.

Judge Live Animals First

Animal Husbandry Specialists John Landers, Dean Frischknecht and Bill Fowler instructed participants in what to look for in slaughter classes of cattle, sheep, and swine. With pens of the different classes of livestock, numbered with chains and ear tags, set up at the packing plant yards, stockmen and students were divided into three groups and rotated to the three pens. Each group had about twenty minutes at the cattle pen, hog pen, and lamb pen, much like many junior livestock judging contests are conducted. Animals to be graded were selected to represent a wide range of slaughter grades and market types.

The payoff came on the final day when producers saw the carcasses of the livestock graded the first day. They completed their score cards by marking dressed weight, grade, and yield to compare with their own estimates of live weight and grade.

There were no perfect scores. Even the experts misgraded animals in every class. But everyone gained some idea of the complexity of knowledge required to make accurate estimates of carcass quality. Earl Moore, Chief USDA grader at the North Portland stockyards, discussed the qualifying points of cattle grading from canner and cutter to choice, good and choice lambs, and No. 1 and No. 2 hogs.

Points to Remember

Meat Wholesaler George Zenner, Portland, pointed out good and bad features of various cattle grades and told how quality affects the saleability of meat. He stressed such things as excess fat on older cows and how it lowers the sale value of such carcasses. "A thin, worn out dairy cow grading cutter is worth more than an overly fat beef cow," he said. "The fat is all waste."

"No wonder they offered us double time for driving through the dairy belt."

Packing plant owner Earl Flick showed a "grubby" steer carcass, one used in the grading demonstration, that required excessive trimming and loss to the packer. One pregnant cow, carrying a seven month calf, illustrated a type of loss to the packer that often gets past the critical eye of the buyer.

When discussing lamb carcasses, Chief Grader Moore put a "good" lamb and a "choice" lamb side by side. "There isn't much difference in external fat," he admitted, "but compare the amount of internal coverage over the kidneys and ribs. The lower grade lamb is not sufficiently finished inside to make the choice grade."

Pocket rules began to appear as the group moved to the rails that held the hog carcasses, and backfat thickness was the main discussion topic. Ted Swenson, USDA Market News Service, put official grades on the market hogs. These demonstration hogs, Yorkshire crosses, were uniformly good, all but two grading No. 1 and nothing lower than No. 2. Many of the participants had graded two or more as No. 3 in the live grading session. Swenson stressed the importance of length, moderate backfat, and good carcass conformation.

A Backward Look

Looking back, more time spent in preparing the group for the live grading by using charts, slides and movies would have been extremely valuable. Dean Frischknecht reviewed some of these things, but instead of the hour that was allotted him, half-a-day would have been better.

For the lecture session the second day, only one-third of the group showed up. An untimely snowstorm was blamed for the small turnout, but perhaps a meeting relating more directly to the active programs of the first and third days would have been more successful.

And finally, cramped space in the coolers hampered the discussion of carcass grades, causing undue repetition. A separate room, with standing space and rails for handling carcasses would have solved the problem.

Speaking for the Clackamas County Livestock Association and for the stockmen present, Walter Fisher, Association president, and Cecil Snyder, committman, summarized the meeting by stating that growers can help themselves by attending such meetings and by using information obtained there to make their own operations more profitable.—*End*

AN IMPORTANT MESSAGE for COUNTY AGENTS and VO-AG TEACHERS

● The advertisement reproduced at the right is appearing in important dairy publications all over America. It contains information of the greatest importance to dairymen and to YOU — the men who help them.

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Sheep production . . . Farm Industry without surpluses

By A. L. Esplin

The nation's sheep growers are faced with many problems in 1958, but surpluses aren't one of them. They're more concerned with new trends in feeding and the future of the incentive program.

● WILL THE WOOL incentive program continue after April, 1959? This is the big question in the sheep industry today. There are two sides to the question. One side thinks the incentive program will go on. On the other hand, the opposition feels entirely different.

There have been two major points in opposition. Some people object to the program or some parts of the program on a basis of principle. Perhaps the most heated objections have related to personnel and salaries paid certain personnel.

A. L. Esplin

The real effectiveness of the promotion is difficult to measure due to the shortage in production of both lamb and wool. Dr. W. G. Kammlade, Associate Director of Extension Service at the University of Illinois, has made the observation that the only way to increase the lamb consumption is to produce more lamb. This is obviously true. However, if the income is such that a good profit can be made with sheep, the sheep numbers will increase and along with this increase will be an increased production and use of both wool and lamb. This, of course, is the objective of the promotion program.

Agriculture is in a period of change and a period of high cost production is making efficiency an absolute necessity for financial success, and even with maximum efficiency, the profit is small.

More Sheep Flocks

Improved moisture conditions in the West and Southwest brought an abundance of feed that placed a premium on feeder livestock. Some of this feed may interest more farmers in lamb flocks. Too, the present government land policy will discourage any major

HUSBANDRY FEATURE

increase in the range sheep industry in the intermountain area. Assuming that the general economy of the country continues at its present level, there should be some increase in sheep numbers due to the short supply of lamb and wool. Any increase in these products will depend largely on feed conditions.

Marketing, the Major Problem

The major problem confronting sheep producers is holding down the unit cost of production and increasing the unit income. We have some of the know-how to hold down the unit cost and to bring about a unit increase in production. The big problem to be solved is proper marketing to insure adequate returns. This involves planning production to avoid surpluses and planning marketing for maximum returns.

Fortunately, the sheep business is not confronted with surpluses. It is, however, confronted with many marketing problems. In the marketing of both lamb and wool, the methods used are old fashioned and the result of prejudice. The distribution of lamb is limited mostly to the New England States and more recently, some parts of California. In areas of low lamb consumption, it is almost impossible to buy lamb.

The premium on lamb carcasses weighing under 50 pounds limits any increase in production to an increase in sheep numbers. Certainly a heavier carcass will have a higher percentage of red meat to bone than will a light

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Nu-Z contains 52% metallic zinc. . . . Can be applied directly to the plant in spray or dust form. . . . Stimulates plant growth and corrects zinc deficiencies.

NU-MANESE *(Manganous Oxide)*

An extremely effective nutritional manganese product for correcting manganese deficiencies due to low manganese content of the soil. . . . Applied directly to soil, in mixed fertilizer or in spray or dust form.

NU-M *(Nutritional Manganese)*

A nutritional manganese compound to be fed to the plants through direct application in spray or dust form . . . To correct manganese deficiencies and to stimulate healthier plant growth.

ES-MIN-EL

WE WILL CUSTOM MIX MINERAL MIXTURES TO YOUR OWN SPECIFICATIONS IN LARGE OR SMALL QUANTITIES

The essential mineral elements. . . . Contains Manganese, Copper, Iron, Zinc, Boron and Magnesium, all essential to healthy, productive soil. Fruits and vegetables rich in vitamins cannot grow in soil poor in minerals. For soil application. Es-Min-El in spray or dust form for direct application to the plants is also available. . . . Contains nutritional manganese, Zinc and Copper.

TC DUST MIXTURES

Tennessee's Nu-Z, Nu-Iron, Nu-M and Tri-Basic Copper Sulfate are especially suited for use in preparing nutritional and fungicidal spray and dust mixtures.

For Information on These Nutritional Products, Write, Wire or Phone Us.

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"Since 1888"

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2 GAL. COMPRESSED AIR

"The ladies favorite." Dome top welded tank. 16" curved brass extension. Light weight. Extra long, 5 ft. hose and adjustable nozzle enables user to spray trees, gardens or flowers with no effort. Long or short distance spray. Brass pump. Good seller. Highly popular.

Complete line of sprayers and dusters. *Many Other Styles and Sizes.*

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ON HOW TO STOP RAT DAMAGE ON YOUR FARM!

Did you know that rats carry as many as 27 dread diseases, eat and contaminate millions of dollars worth of food annually, kill chickens, start fires, cost farmers over $2,000,000,000 every year?

Learn how you can eliminate rats from your property . . . keep your farm rat-free FOREVER.

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carcass. It appears that lamb will not receive much attention as long as the supply of lamb represents such a small percentage of the total supply of meat.

Woolen Mills Move South

There has been a movement of woolen mills from the Boston area to the South. The industry appears to still be in the hands of a few individuals. There does not seem to be any real interest in buying wool on its true merits.

More Pellets for Lambs

There has been increased use of pelleted feeds in lamb diets. It is very important to properly evaluate pelleted feeds. Too often the cost is too high and the formula is wrong. The pelleted feed should not cost more than $4 to $6 per ton more than the ground unpelleted feeds. The pellet must contain at least 50 percent roughage and there is evidence that even a higher percentage will do a good job of fattening lambs.

Lambs have been fattened on pelleted alfalfa hay as well as pelleted dehydrated alfalfa with good gains (better than one-third pound per lamb per day). Lambs can use large pellets—they have been fattened on cubes measuring ¾ inch by 1¼ inch by 1¼ inch. These lambs made gains similar to lambs fed ¼ inch pellets.

Pelleting of complete rations provides a saving in labor and in feed. There is no feed refused. The pelleting of roughages may be the coming practice. It provides a saving in labor in handling roughages and it reduces the bulk so that these dry roughages can be stored similar to grain. It eliminates feeding loss and permits self-feeding. The increased gains from pelleted rations is apparently due to increased consumption. Lambs will eat three to five pounds of pelleted feed per lamb per day.

One new observation is that lambs fattened on pelleted feed developed a condition known as parakeratosis of the rumen wall. The wall of the rumen changes to a dirty brown color. The papillae are enlarged and become hardened. In one experiment, lambs which developed this condition did not gain as well as lambs with normal rumen walls. Evidence from other experiments supports the use of pelleted feeds, even though there is a change in the rumen wall.

Hormones for Lambs

The use of some hormone materials has been approved by the Pure Food and Drug Administration. Reported increased gains and feed efficiency with the use of hormones and with satisfactory grading is very encouraging. The acceptance of these materials by the lamb feeders has been slow due to the serious side effects when materials and dosages are not just right. The blockage of the urinary tract has been very serious in some instances. This problem is apparently solved. It does follow that any feeder considering the use of hormones be very careful to be sure that the materials and dosages used will not give these side effects.

Through the use of pelleted feeds and hormone materials, the goal of one-half pound average daily gain for feeder lambs appears to be easily attained. Perhaps the new goal will be one pound gain per lamb per day.

Lambs Can Eat Silage

With the end of the drought and the increased supply of roughages, the sheep industry is giving a lot of attention to the use of roughage. The idea that sheep should not be fed silage is definitely wrong. Sheep will do quite well on silage with proper supplementation. It seems that protein and calcium are the most useful supplements.

Lambs have been fattened on all the corn silage they will eat with one-fourth pound of 32 percent protein supplement, one-half pound dehydrated alfalfa or alfalfa hay and .02 of a pound limestone per lamb per day. Lambs will eat up to 6 pounds of corn silage per lamb per day. Gains of one-third pound per lamb per day can be expected on a ration of this type. Breeding ewes can use silage up to 8 or 10 pounds per ewe per day. Protein, limestone and a small amount of alfalfa supplements the silage to give best results.—*End*

AUTOMATIC WATERER—Fairfield Engineering Company, Fairfield, Iowa, has placed on the market a new low-cost automatic water fountain designed to provide greater sanitation and disease control with less time and labor. The water fountain, called the "Flush-O-Matic" because of its distinctive self-cleaning feature, was developed primarily for use in pig nurseries." Similar models, however, are available for dog kennels and poultry houses.

Here's what we are telling your farmers about

THE IMPORTANCE OF VITAMIN D FORTIFICATION

Scientifically balanced formulations now assure that feeders get all the known elements for animal nutrition in the feeds they buy.

Vitamin D fortification is especially important with today's practice of raising animals in confinement. Recently, even hogs are being raised in air-conditioned piggeries. This abbreviates the exposure of growing animals to the sun's rays, an important source of vitamin D_2.

Since roughages are a variable source of this essential vitamin, a new significance is put on heavy vitamin D fortification of feeds with Fleischmann's FIDY Irradiated Dry Yeast.

Prevention of Milk Fever

FIDY, a rich source of vitamin D_2, is also used in the prevention of Milk Fever. Fed in massive doses, 5 to 7 days prepartum, FIDY Type 142-F has been found to maintain blood calcium above the low levels that occur with Milk Fever.

You can now recommend special rations or the feeding of FIDY itself as an aid in preventing Milk Fever. Several feed manufacturers offer a special Milk Fever preventive ration containing FIDY to help complete their line of dairy feeds and provide an added service to their dairymen.

Free Vitamin D Portfolio

Do you have the current monthly letters with digests of recent research and other information on vitamin D, calcium and phosphorous in the nutrition of dairy cows by Dr. G. C. Wallis, well-known nutritionist? Additional sets are available in portfolio form. Address STANDARD BRANDS INCORPORATED, **Dept. BF-358**, Agricultural Department, 625 Madison Avenue, New York 22, New York.

Fleischmann's F·I·D·Y

IRRADIATED DRY YEAST

RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

Questions farmers ask most often about

vitamin D nutrition

Q: What does vitamin D do when I feed it to my livestock?

A: Vitamin D prevents rickets and helps livestock use calcium and phosphorous properly and efficiently for building sound bones and meeting other body needs related to rapid growth, efficient feed utilization, good fleshing and well-being of the animal.

Q: What happens if my livestock do not get enough vitamin D?

A: Symptoms of severe deficiency (rickets) are stiffness, bowed legs, arched back, swollen joints, difficulty in lying down or moving about, hair coat dull and coarse, and over-all appearance of unthriftiness. Mild or borderline deficiencies which do not cause symptoms severe enough to be noticed occur far more frequently and are the ones that cause the greatest loss in profits through slower growth and poorer feed utilization.

Q: Won't my livestock get enough vitamin D from sunshine and hay?

A: Sometimes they will, but sunshine and hay are highly variable and unpredictable sources of vitamin D. Feeds adequately fortified with vitamin D provide protection. Look for the words "Irradiated Dry Yeast" on the feed tag.

Q: Do dairy cows need vitamin D?

A: Yes. Work at the South Dakota Experiment Station showed that dairy cows become stiff, lame, develop swollen joints, arched back, difficulty in moving about or lying down, fail to come into heat, and have weak calves with poorly mineralized bones and rickets-like appearance. There was also evidence of poor appetite and marked decrease in milk production.

Q: Can Milk Fever be prevented? If so, how?

A: Yes. Fifteen years of research at the Ohio Agricultural Experiment Station have resulted in a highly effective method of prevention:

1. Feed 30,000,000 units of vitamin D_2 daily, preferably in two equal feedings, for 5 to 7 days before calving. 2. Provide plenty of calcium and phosphorous. 3. Discontinue feeding the vitamin D_2 at the end of 7 days even though cow has not calved. 4. If calving occurs before the vitamin D_2 has been fed for 6 days, feeding may be continued for 1 day after calving.

Thirty million units of vitamin D_2 are supplied by 7½ ounces of Fleischmann's FIDY Irradiated Dry Yeast, Type 142-F.

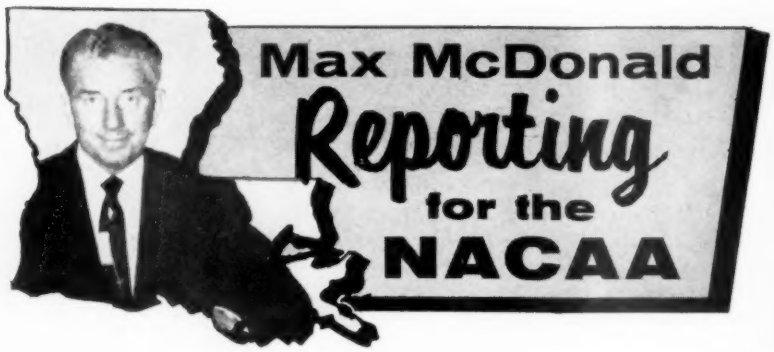
G. C. Wallis

Have You a Question?

If you have questions about animal nutrition concerning vitamin D fortification or Milk Fever prevention, write to Dr. G. C. Wallis, Director of Nutrition, Agricultural Department, Standard Brands Incorporated, 625 Madison Avenue, New York 22, New York.

Standard Brands Incorporated

New York 22, New York



Alaska Joins NACAA

The state of Washington has annexed Alaska to it. That is, as far as the County Agents Association goes.

H. W. Pillsbury, Extension Horticulturist of Alaska, attended the annual meeting in Boston, just to see how we ticked. He liked what he saw in Boston. Upon attending the Washington State annual meeting, he told Marion Bunnell, NACAA president, that he was sure the Alaska Extension workers would be interested in joining our association.

After discussing this at the Washington State Meeting, this group voted unanimously to dispense with all rules and regulations, and affiliate Alaska with them. So now Alaska is part of us and Pillsbury says they are looking forward to the 1958 annual meeting.

Welcome, Alaska, to our National Association. We'll be looking forward to meeting a good delegation from Alaska in Seattle, August 31 to September 4.

National President— A Busy Man

What does a president of a National organization like the National Association of County Agricultural Agents do, other than get his expenses paid on a few nice trips?

Well, first of all, as a county agent he has to hold down his job within his county, and this is usually a full-time job. Then, being the president of the National Association is practically a full-time job. He has to see that the work of the Association goes on through the officers and various committees.

Then this business of representing the county agents of America at various functions is no small item. Here are some of the contacts and meetings President Bunnell has made since the annual meeting in Boston in Mid-October: (1) Spoke at annual meeting of the National Home Demonstration Agents Association; (2) reviewed NACAA purposes and procedures with committee of Land Grant Colleges, and attended its annual meeting at Denver; (3) attended annual meeting of National Grange; (4) attended National 4-H Club Congress; (5) spoke briefly to American Agricultural Editors Association; (6) represented county agents on a committee of 4-H club agents and home demonstration agents aimed at working together on problems of mutual interest; (7) attended National Farm Bureau Federation Annual Meeting; (8) met with Washington State Annual Meeting Committee; (9) attended meeting of officers, directors, and committee chairmen in Kansas City.

And at all these meetings, he was

COUNTY AGENTS ELECT—The newly elected officers and directors of the Pennsylvania County Agents' Association, along with the retiring president, look over and discuss plans for the coming year. They are, left to right: J. S. Thurston, Greensburg, vice president; Harold Waha, Mercer, secretary-treasurer, and Charles Forney, Bellefonte, director. Seated, left to right: Harry Sloat, Lancaster, retiring president, and James McKeehen, Milford, president.

OHIO EXTENSION OFFICERS—New officers of the Ohio County Agents' Association are, left to right: Norman C. Arnold, president, Miami county, Troy; Mrs. Virgil Johnson, secretary-treasurer, Van Wert county, Van Wert, and Lawrence Holtkamp, vice president, Van Wert county, Van Wert.

NEW FARM ADVISERS—Sixteen members were added to the Illinois Association of Farm Advisers in 1957. The new members, from left to right, front row are: Harry S. Wright, Jr., Fulton county; Ted L. Kuhnen, Whiteside county; Robert W. Hayword, Jr., Morgan county; Urban Becker, Kane county; Gerald R. Payne, Henry county; John H. Covert, Coles county, and Willard Larson, Peoria county. Back row, left to right: Donald D. Murray, Fayette county; Jack J. Butler, Jersey county; Jerald A. Crickman, Macon county; Loren E. Knapp, Livingston county; William H. Hills, DuPage county; Louis A. Bower, Madison county; Thomas Eubank, White county, and George Myers, Hancock county. Fred Painter, president of the Association, is presenting a membership to Ted L. Kuhnen.

Now... malathion can be applied directly on cattle, hogs, poultry

Low toxicity to warm-blooded animals makes malathion the first phosphate insecticide for control of external parasites.

A SIGNIFICANT advance was made in the control of insect pests on livestock with new, government residue tolerances for malathion covering meat and meat by-products from non-milking cattle, hogs and poultry. Years of countrywide research have proved the effectiveness – and safety to animals—of this new practice that lets farmers use a *phosphate* directly on animals. Together with its long-established recommendation for use in stock buildings for fly control, direct application of malathion gives livestock farmers and poultrymen control of several insects with *one* insecticide. This efficiency is made possible by malathion's combination of effectiveness against insects *plus low toxicity* to man and animals.

The new tolerances are: 4 parts per million in or on meat and meat by-products; 0 parts per million in eggs. Here is an outline of use recommendations:

For Beef Cattle

Malathion sprays can be used directly on cattle for control of lice and ticks. In back-rubbing devices, malathion controls lice and can reduce hornfly populations. Malathion should *not* be used on lactating dairy animals or on calves under one month of age.

For Hogs

Use malathion sprays on animals, pens and litter for control of lice. One application usually does the job.

For Poultry

Direct Application. For Northern fowl mite and Poultry lice, apply malathion sprays or dusts to birds as a supplement to treatment of premises.

Effectiveness plus low toxicity to mammals makes malathion the first phosphate insecticide accepted by the U.S.D.A. for direct application on livestock.

Poultry Houses. For Northern fowl mite, Chicken red mite, Poultry lice, ticks and flies, spray malathion thoroughly on all surfaces. For mites and lice, dusts may also be used.

Roost Paint. Brush malathion on roosts to control Chicken red mite and Poultry lice.

NEW CROP USES FOR '58

Malathion is now recommended against a total of 105 insects attacking 93 crops.

Seventeen new vegetable crops in this list include asparagus, several root crops, pumpkins, several leafy vegetables, garlic, leeks, shallots. Insects controlled include aphids on all crops, thrips on onion family, leafhoppers and mites on pumpkins.

New fruit crops include the bramble family, currants and gooseberries, nectarines and quinces. Malathion protects against a wide range of insects including aphids, mites, Japanese Beetle. Protection for quinces also include plum curculio, oriental fruit moth, codling moth.

Small grains can now be protected by malathion against greenbugs, aphids, winter grain mite, armyworms. *On corn* for grain or forage, use malathion for sap beetles, corn ear worm, thrips. *For rice:* use against rice leaf miner.

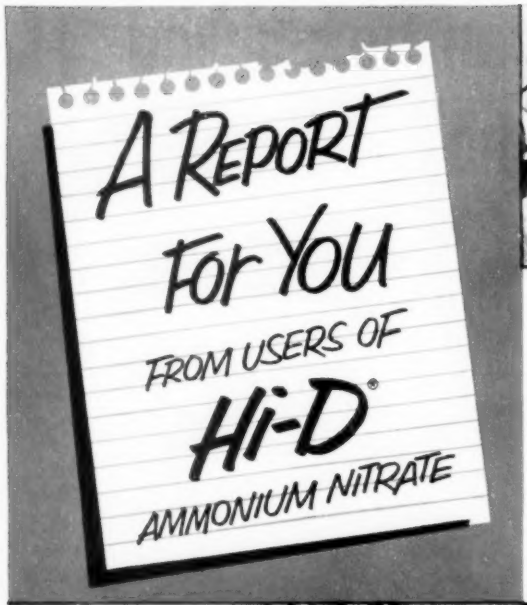
Other new crops include mushrooms, peppermint and spearmint.

RESISTANT INSECTS: RESIDUES

Besides effectiveness and low toxicity, malathion offers other important advantages. It controls insects resistant to chlorinated insecticides including flies, mosquitoes, codling moth, boll weevil and others. Because it can be applied up to 72 hours from harvest on many important crops, it eliminates the residue problems often encountered in close-to-harvest insect control.

CYANAMID

American Cyanamid Company • Insecticide Department • 30 Rockefeller Plaza • New York 20, New York



"Hi-D flows freely, stays dry, spreads evenly," says Wayne Baker.
"Used Hi-D on pasture mostly. Some in corn and cotton. Really prefer the Hi-D granules in our field machinery over other kinds of ammonium nitrate."

"Hi-D arrives dry and stays dry," says Dick Hitt, pilot.
"Put out several thousand tons of Hi-D this spring. Flows evenly from start to finish. Plane hopper holds up to 20% more material. Saves me air time. High-density Hi-D granules distribute evenly on the ground."

"The men all like the way Hi-D handles," reports Earl A. Johnson.
"We have about 1,400 Guernsey dairy cattle — one of the largest herds in the world. We like Hi-D because it arrives with no lumps. What we don't use at once stores very well. Hi-D throws nicely."

"Best moisture-proof bag I've ever seen," says E. G. Farrand.
"Use Hi-D on Coastal Bermuda grass and corn, plus oats and rye in winter. A really free-flowing material, you never get too much or too little. Hi-D is always in good condition even after storing."

NEW GRANULE Hi-D
AMMONIUM NITRATE
Unique Shape • High Density •
Controlled Size • Free Flow •
Dry Flow • 2-Speed Nitrogen
Spreads Evenly • Stays Put •
Goes To Work Fast

NO OTHER
AMMONIUM NITRATE LIKE IT!

For further information and helpful literature, write:
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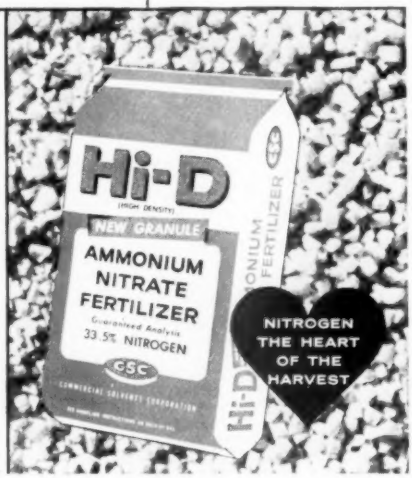


representing you, county agents of America. As if this wasn't enough, he has made contacts with various organizations and individuals by letter, telephone and wire. Now don't you think we should have been represented at each of the above meetings? So that is one reason our dues had to be raised.

Hold Farm Management School

Last year County Agent J. A. Wheeler of Union county, Kentucky, assisted by personnel of the Farm Economics and Agronomy Departments of the College of Agriculture, held a week-long Farm Management School for 24 farmers of the county.

This school proved to be so well accepted that this group is enrolled for a second year course this year, and a new group of 25 other farmers will be given the first year course as well.

The group studied the principles of high level farm planning and management. Present county plans are to continue these schools of two years duration and enroll around 25 new farmers each year, which means fifty Union county farmers will get this farm management training annually.

Cooperation Paves the Way

Clarion county, Pennsylvania, agents and vo-ag teachers will be giving farm folks the same answers to problems because of a recent get-together at the county agents office.

Grassland mixtures, varieties and management were discussed. Topics such as the feeder pig program, new semen diluter and other topics which are vital to the county agriculture industry were discussed. John Walker, county agent, feels that this meeting was very profitable from the standpoint of coordinating recommendations to farmers as well as the thinking of agricultural education personnel in the county.

Workshops for Farmers

Workshops are common among Extension workers, but in most cases are held only for Extension workers.

Associate Agent Leslie Rollins of Washington county says it works with farmers, too, and Rollins should know since he has just completed an agronomy-crop workshop with nearly 100 farmers in every session.

The workshops were held on five consecutive Wednesdays, beginning at

11:00 a.m. and adjourning at 2:30 p.m. Agronomy specialists, neighboring agents, and soil conservation service personnel were instructors.

The meetings were unique in that each farmer worked with the individual problems on his own farm. This was a "work shop" method school where each farmer participant, with the help of specialists and group instructors, learned to use his soil survey maps, analyze soil test reports, and, accordingly, draw up a program of correct management for each field. "Treat the Soil According to It's Needs and Capabilities," which was the theme of one of the lessons, could well have been the theme for the entire series.

County Agent Honored

The local radio station recently paid tribute to Bernie Trierweiler, Goshen county agricultural agent at Torrington, Wyo.

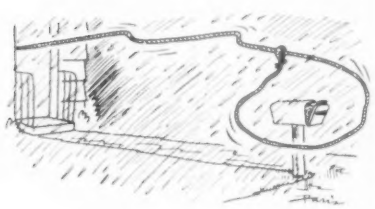
The announcer said, "Bernie has been a county agricultural agent for 24 years now. He was a county agent in Colorado from 1933 to 1946. The Trierweiler's moved to their present location in 1946 where he has served capably and faithfully for the past 12 years.

"Bernie has set a number of enviable records. He received the Distinguished Service Certificate from the National Association of County Agricultural Agents in 1945. The livestock and poultry judging teams (4-H teams) have won three State Championships and three Reserve Championships. Trierweiler's 4-H judges have copped Regional Championships two times, while his dairy judges have won four State Championships.

"While in Colorado, Trierweiler was an office holder in the State County Agents' Association, serving as president, vice president, secretary and treasurer, and has served in the same capacities in Wyoming. He is probably the only county agent in the United States with this distinction. Presently he is serving as director of the western region in the National Association of County Agricultural Agents.

"We salute you, and wish you many more productive years County Agent Bernie Trierweiler," concluded the radio announcer.—*End*

★



TIPS ON TRACTORS

by DINO, the Sinclair dinosaur

Slow going, friend. Too much for your tractor?
Engine keeps stallin' on me, Dino. This tractor has sure lost a lot of power!
Could be gummy engine deposits. Why not free your stuck rings and sticky valves with SINCLAIR EXTRA DUTY MOTOR OIL? Let's drain and refill.
MONTHS LATER
Got plenty of power now, Dino! No job's too tough with EXTRA DUTY MOTOR OIL in my engine
It's smart farm management to help your equipment deliver top power to meet peak loads. Refill now with... EXTRA DUTY MOTOR OIL!
SINCLAIR
EXTRA DUTY
MOTOR OIL

Get the finest for your car, too! Ask your Sinclair Representative about Sinclair Extra Duty Triple X Multi-Grade Motor Oil.

SINCLAIR

Petroleum Products for every farm need

Sinclair Refining Company, 600 Fifth Avenue, New York 20, N.Y.

NASCO News
TIPS FOR BETTER TEACHING

Garden Demonstration Materials

Are your garden and orchard materials ready for spring demonstrations? You'll need marking tags, pruning knives and grafting wax, besides other items. On pages 182-5 of catalog No. 41, a large assortment of garden and fruit equipment is listed. Start your demonstrations in the classroom by using a blackboard or flannel-graph and finish them outside with actual materials.

Moving Exhibits Attract Attention

On the average, people will stop only ten seconds or less to look at an exhibit—unless there is some motion. You can have motion in lights or in parts of the exhibit itself. An easy way to get motion is with one of the electric turntables shown on page 34. Either of these will operate silently and carry a substantial load. One is powered by a 110-volt motor and the other by two flashlight batteries.

Posters for Spring Achievement Days

If you need one poster, the cheapest way to make it is by hand. If you need a hundred, a printer can do it most economically. If you need a number somewhere between these two, silk screen might be your best bet. Silk screen is a simple, inexpensive process that you and your students and club members can do easily. You can make posters of any size from a few inches to two or three feet across. And you can make them in any of 20 standard colors. All the equipment you need is listed on page 214 of the No. 41 catalog.

A New Book for Gardening Projects

"*Vegetable And Fruit Growing*" will give just the help you want for the boys and girls in these projects. Written by Mack, Larson, Sampson and White, this book deals with the common cultural practices, diseases, and pest control. There's still time to get one before the 1958 garden season is too far along.

Other titles which will help you are: "*Vegetable Growing*," "*Vegetable Science*," and "*Vegetable Production*." You'll find them all on page 270 of catalog 41.

Plan Your Evening School Graduation

A young-farmer or adult evening school isn't complete till you've had the commencement exercises and given each graduate a diploma. Several styles of diplomas are shown on page 48. They can be adapted to almost any kind of class you have held. It's usually a good idea to ask a member of your school board or Extension committee to present the diploma.

If you haven't received catalog #41, write today for your free copy.

NASCO FORT ATKINSON, WISCONSIN

Are Hogmen headed for Contract Farming?

By Arthur L. Anderson

● THIS LOOKS LIKE a year of large numbers and narrowing margins for hog producers. Since there is plenty of low-priced feed on hand, it appears that growers will increase their hog output by about 6 percent in 1958.

A. L. Anderson

Many hogmen know this, and view the prospects of profits in 1958 as not too favorable. Some of these producers have begun to wonder about the effects of the contract type of hog production.

When hogmen get together these days, after the usual greetings the discussion soon turns to integration and automation in hog production. In some areas, contract swine feeding—vertical integration—is rather common. This process includes two or more steps in hog raising under the same financial control. In other words, various degrees of production, processing and distribution are controlled by one agency.

Such integration is common in broiler production and it is making inroads into egg production. This growth has largely evolved around a feed dealer and a farm contract, but the authority is mainly in the hands of the feed dealer. The farmer or grower provides the labor and farm facilities. He is paid on a piece work basis—adjusted to the feed conversion ratio as well as the sale price of the final product. Under this plan, broiler production has become more centralized and the final product more standardized. The development of an attractively merchandized, high quality product has lead poultry meat to greater poultry sales. Certainly the aspect of the vertical integration picture should be a bright spot for swine producers.

Broilerized Pork Growth

Many have wondered about the implications of the so-called "broilerized" pork production in this country. Will it expand until it accounts for 90 percent of the production as it now does with broilers? From my viewpoint, it seems inevitable that with our favorable hog situation this system will expand.

Even family-size hog raisers are increasing the size of their enterprises. Such changes seem necessary for elimination of waste and improved efficiency. Then this leads to year-round specialized hog production with better utilization of equipment, and high-priced land and labor. This was one of the changes leading up to the integration of the hog industry.

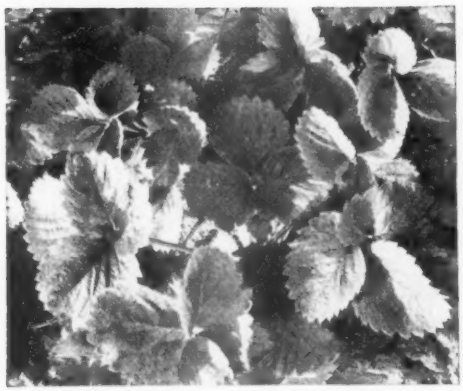
Another step toward integration came when producers began more confinement feeding. While forage crops and clean-ground pastures for swine have many advantages, modern-day feed mixtures make it possible to do well with confined pigs. Automation, specialization, mutiple farrowing and such technological advances have hastened the move in many areas from pasture to drylot. Better control of a swine-raising project is possible in the confinement system—an ideal setup for integration.

Pig Parlor Plan

The "pig parlor" plan used by some feed companies was another milestone on the way to integrated hog production. These unit parlors provide everything that a pig needs—

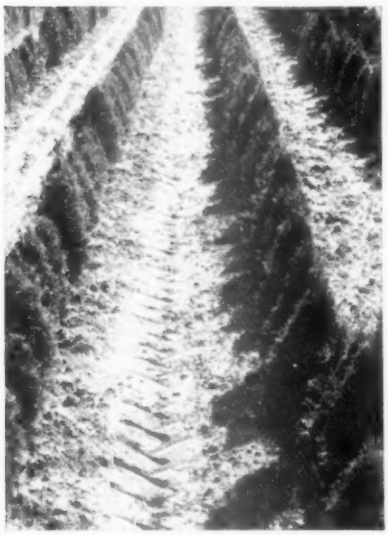
CRAG BRAND Sesone
HERBICIDE-1

cuts the cost of weeding!



STRAWBERRIES need help to fight weeds, and Sesone (formerly called Herbicide-1) provides it at low cost. Sesone kills weed seeds as they sprout...saves up to 75 percent of berry weeding costs.

ESTABLISHED NURSERY STOCK thrives when soil is kept weed-free with Sesone. This pre-emergence weed killer saves nurserymen many dollars in labor costs for hand-weeding bulbs, evergreens, roses, and other plants.



PEANUTS today are planted with a modern machine that also sprays the rows with Sesone to provide three to six weeks of weed control. CRAG Sesone kills the tiny weed seedlings as they sprout, until the peanut vines have grown enough to shade out late-sprouting weeds.

CRAG Sesone is one of the chemicals developed by CARBIDE research to make farming easier and more profitable. Other products, already proved as aids to agricultural efficiency, are CRAG Glyodin, a fruit fungicide, and CRAG Fly Repellent, used in livestock sprays.

More new CRAG chemicals for better agriculture are in the development stage, and are being tested at the CARBIDE Research Farm and by leading scientists at agricultural experiment stations. Watch for new and better CRAG agricultural chemicals.

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Tree Talk

by

Will Rusch

Just about every businessman I know would consider $18 to $25 per acre a mighty small investment if he knew his land would steadily increase in value as the years went by.

In a nutshell, that's the "money side" of tree farming, about as sound an investment as any I know of. If you're interested in building a nest-egg (and who isn't?), here are a few facts and figures.

Seedlings purchased from state or privately owned nurseries cost about $5.50 to $15 per thousand, depending on the species and size. You'll probably find that graded seedlings of better height and quality are well worth the slight additional cost. Add labor to the cost of your seedlings and you reach a figure of between $18 to $25 per acre.

Most veteran tree farmers plant about 1,000 trees per acre. On this basis, the seedlings are set out 6 feet apart in the rows with 7 feet between rows. A 7 by 7 planting will give 890 trees per acre and an 8 by 8 setting, 670 per acre.

The idea is to space the trees so the first thinning can bring in some cash by selling the culls for pulpwood. If the trees are planted too closely, they will have to be thinned to prevent stagnation before reaching pulpwood size.

If you've been operating a chain saw for any length of time, you'll probably be interested in a brand new chain the McCulloch folks have just introduced—the exclusive new Pintail.

According to actual tests under the toughest operating conditions, the McCulloch Pintail chain not only cuts faster and much smoother than ordinary chain but lasts up to 50% longer, too! If you've ever had to cut through hard wood or frozen timber, you'll appreciate the ease with which the Pintail gets the job done.

Available for all McCulloch chain saws and many other makes, too, the Pintail chain is fully described in a new folder we've just prepared. If you'd like a copy, just write to me, Will Rusch, McCulloch Tree Topics Bureau, 6101 W. Century Blvd., Los Angeles 45, Calif.

One of the uses frequently overlooked by folks planning to buy a chain saw is construction and building repair. Bud Stammen, New Weston, O., figures he saved about $500 a while back using his McCulloch chain saw to repair some buildings on his 120 acre farm.

"Thanks to my McCulloch, I was able to do most of my own building repairs and build a new hog and farrowing house, too. The lumber for the job came from my 25 acres of oak, maple and elm," Mr. Stammen points out.

No wonder more and more farmers are finding a McCulloch chain saw as much a piece of standard equipment as a tractor or pick-up truck. Try one at your McCulloch dealer and convince yourself it's the best that money can buy.

Advertisement

feed, water, shade, shelter, and an exercising area.

A small investment, rapid turnover, and little labor are given as advantages for this kind of a cash crop project. Rapid spread of this type of feeding has taken place in the South and its spread is extending northward. Pig parlors fit well with the bulk feeding of a complete ration.

But, this system has its disadvantages. First, a large volume is necessary for suitable income. Also, manure disposal and fly control can be a problem. Confinement feeding of pigs may require about one-third more labor than feeding on pasture. A complete, adequate ration is a must. However, there is no question but what with proper supervision the "pig parlors" have a definite place.

Push Button Feeding

The push button hog finishing system—where hogs are fed individually and automatically in a battery of cell-like units—has made its appearance. It is the ultimate in automation. It includes automatic feeding, watering, and manure disposal as well as air conditioning. The pig is provided with maximum comfort. Claims for this system of hog raising are good, but time will tell whether it will be economical. It reminds me of the pig-producing factory proposed by the Russians some years back. The various stages of hog production were to be carried out on the various floors of a large building. Some experts dubbed it the "Soviet Pig Battleship".

There is no question that we are moving towards larger, more intensive swine producing units which tend toward integration. The fact is, estimates already show nearly a quarter of a million hogs being fed out yearly on a contract basis.

Contract feeding could reduce the farmer to a hired hand of the feed dealer. He'd furnish the equipment and labor. The feed dealer, in turn, furnishes the pigs, feed supervision, and management. This may be a good deal for an unskilled operator. But, the farmer loses some of his freedom, and if he normally is a good producer, he may not be helped much by the arrangement.

Over-Production a Worry

Temporary over-production by expansion of contract hog growers is a definite threat with current conditions. Contract poultry producers have over-produced, but the consumers were benefited by lower prices and a high grade, uniform product.

Hog production is unique in many respects, and quite different from poultry meat production. There will be a place for the individual producer for a long time to come. *This expansion of contract feeding will force the corn belt farmer and others producing feed grains to develop more efficient methods of swine growing if they want to stay on an individual, independent family farm basis.* It can be done, but only if the volume is large enough and the productive plan effective and efficient. Capital investment will in many instances be required to modernize antiquated equipment. The operator must organize the swine enterprise to stimulate assembly-line pork production. A skillful, alert operator is the keynote to success in management in order to avoid costly mistakes.—*End*

Vo-Ag Graduates Stay on the Farm

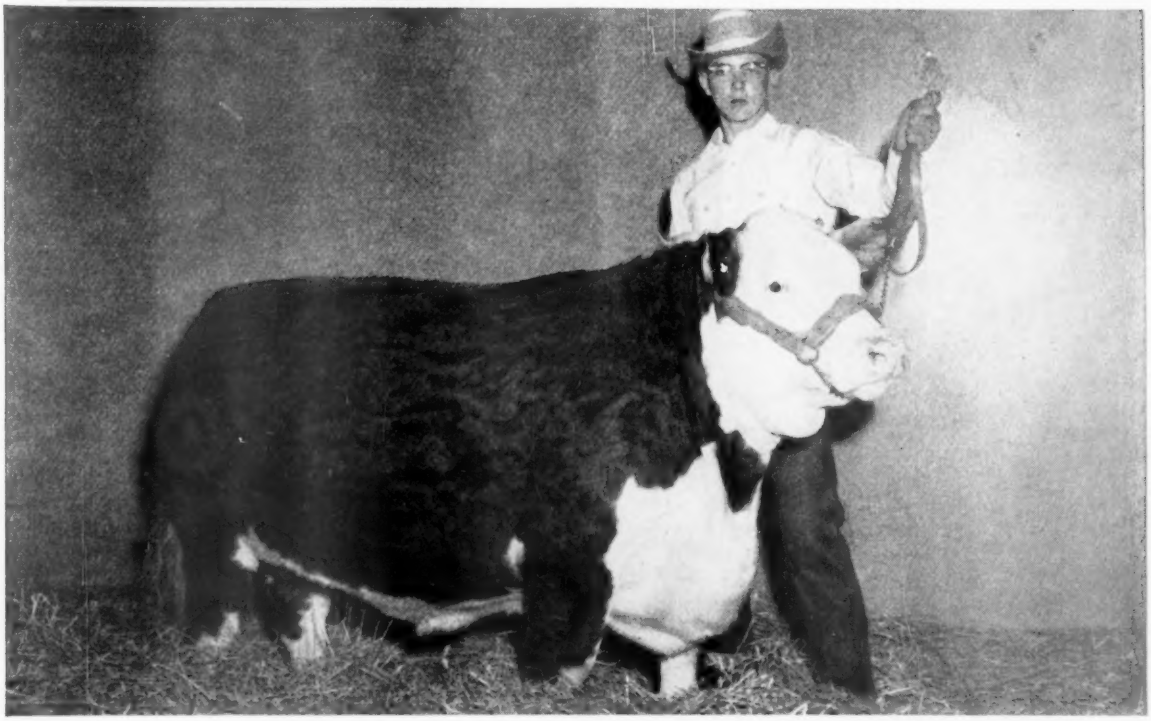
● THERE IS A great deal of speculation these days about what happens to vocational agriculture students after they finish high school.

But this is not a matter of specu'ation for Vo-Ag Teacher George W. Myers of the Lampeter-Strasburg High School in Lampeter, Pa.—he knows where his former students are.

He gained this information from a survey of former students this past spring. His survey revealed that nearly 63 percent of the vocational agriculture graduates from 1916 to 1957 are presently engaged in farming. Another 21 percent are occupied in related fields. Then 84 percent of the students graduating in vocational agriculture during the period from 1916 to 1957 are in farming or a related field.—*End*

In the January issue of Better Farming Methods (page 47) we carried an article entitled "Do Vo-Ag Graduates Stay on the Farm?" Of course this article was not intended to indicate a trend for the whole nation, but was merely published to show what the distribution of vo-ag graduates was in one local area. In that particular survey, a great many students did not stay in agriculture. However, here is a story which gives the other side of the picture, and this time "vo-ag students do stay on the farm."
—Editor

PURINA VISITS · **ANOTHER RANCHER OF TOMORROW**



Ross Deewall is justly proud of "Andy"... Grand Champion FFA Steer at the 1957 American Royal. "Andy" was raised on Purina Steer Fatena, corn, milo, oats and barley.

Kansas youth shows Grand Champion FFA steer at American Royal

When Ross Deewall took his Hereford steer, "Andy," to the 1957 American Royal he knew that he had a fine animal, for "Andy" had won the Grand Championship at the Comanche County Fat Stock Show. Judges at the Royal agreed and picked "Andy" as the Grand Champion FFA steer of the show. "Andy" was fed home-grown grains and roughages, supplemented with Purina commercial concentrate.

Ross Deewall already has proved himself a stockman and a leader in the Coldwater, Kansas, area. He owns a herd of 10 registered Hereford cows and heifers and 50 Hereford steers. Although only 15 years old, he has been six years in club work, having served as president of his club last year and on the county council at present. He helped organize the Kansas Junior Hereford Association. He plays football and basketball on the Coldwater High School teams and sings in the glee club.

Now in his second year of high school, he already has plans for the future. He will go to Kansas State or Oklahoma State for a degree in animal husbandry. Then, he probably will return to ranching in Comanche County.

Purina salutes Ross Deewall... rancher of tomorrow... for his leadership and success.

* * * *

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Tell them what's happening in Soil Husbandry

By J. B. Peterson

Ag leaders are the golden links in the chain that carries information from researchers to the farmer. This soil husbandry feature is written with these links in mind.

● THE AMERICAN SOCIETY of Agronomy, while celebrating its Golden Jubilee meeting in Atlanta, Ga., November 18-22, 1957, focused attention upon the contributions which agronomists have made to American Agriculture during the past half century.

Many of the younger agronomists found it difficult to understand how so much was accomplished as they listened to comparisons between present-day training and working facilities with those of the past 50 years.

It is granted that they do not compare, but there is another factor which had great influence in getting the new information out on the farm. This factor is the "chain of information" that has many important links in it, starting with the research worker. Toward the end of the chain, and close to the farmer, there are a couple of gold links—the county agricultural agent and the vocational agricultural teacher. These men deserve far more recognition than they ever receive. The late R. M. Salter, in his presidential address to the American Society of Agronomy in 1936, gave a fitting and deserving tribute to these men when he said, "You will learn that the interpretation of science, its translation into terms of useful application, calls for as much ability and offers as great rewards as does the acquisition of new facts."

For this reason, you men are the gold links in this chain of information in more ways than one. You also bring back to us in teaching and research, the many soil husbandry problems that are confronting the farmers with whom you work. We have depended upon your constructive information in the past, but your help will be still more valuable in the future, especially as the farm population decreases and agronomy becomes more technical. For example, a fertilizer manufacturer recently stated that modern fertilizer plants will be under the supervision of chemical engineers and the personnel must have a high school education.

News research findings in soil husbandry are rapidly coming to the farm, but in so many cases the lag is too great and too much is lost by waiting too long to "see how it works." Therefore, I will pass on to you some of the new practices that seem already like "old hat" around research circles, but are still new to many farmers.

Perhaps you can demonstrate these practices and speed up the reaction. In other words, you can supply the catalytic action that is needed; for example, in getting more farmers to convert their planters to band placement.

Band Fertilizer Placement

Probably many of your farmers have read and heard about converting their corn planters from the split boot to the single boot method of fertilizer placement, but they just "haven't got to it," as they so often say.

So why not have a demonstration in your farm shop in cooperation with the county agent and convert a planter owned by a local farmer. Perhaps a local farm equipment dealer would be pleased to cooperate.

During the demonstration, point out that today's concentrated fertilizers give most crops the starter boost they need from a single band of fertilizer placed two inches to the side and two inches below the seed. This single band of fertilizer is similar to the pony motor on a big diesel. They both get a big crop and a big machine off to a fast start. And don't forget to add that with planting speeds now used today, the old split boots are sure to place too much fertilizer close to the seed and cause fertilizer burn.

As an addition to the demonstration, why not plant some corn in a nearby field using the old split boot attachment in comparison with the new single band placement method. It will be important to plant at the same speed with both methods.

Agronomists in Indiana have found that a well-aerated, moist nitrogen-phosphorus band is almost an ideal place for the rapidly growing root surfaces to take up nutrients. Other nutrients including potassium and certain minor elements can be effectively added with the starter fertilizer in the band.

This kind of a demonstration will be effective on any of the cereal crops such as corn, wheat and oats because these crops are notoriously poor feeders of phosphorus when the plants start growth.

Band seeding of small seeded grasses and legumes is an older practice, but many farmers have not converted their grain drills. Perhaps they do not realize that band seeding will save them enough seed to pay for converting a drill with plastic hoses. In addition, they will obtain a better stand from band seeding in comparison to broadcasting with less seed.

Subsoiling, Vertical Mulching

These two practices go together like ham and eggs—one makes the other

Lilly

FEEDLOT INTERVIEW WITH MERLE RUBENDALL, FONDA, IOWA

"Best lot of cattle I've fed..." reports 'Stilbosol' feeder

Iowa feeder gets 4.1 lbs. daily gain over 108-day feeding period. Hits choice grade on 236 head with dress-out of 62.11%. "This is the best lot of cattle I've fed in 13 years of feeding," says Merle Rubendall.

by Eugene S. Hahnel

Merle Rubendall feeds out around 3,000 head of cattle a year. He is also commissioned to buy more than 30,000 fat cattle each year for a well-known meat packing company. So, Merle knows the cattle business from both sides of the fence.

"Most feeders I talk to use stilbestrol . . . and all of them use it in their feed," Rubendall states. "I was one of the first in Iowa to use supplements with 'Stilbosol.' I think it is the greatest thing in my feeding operation that I've seen."

Cites strong proof for 'Stilbosol'. . . Merle bought 236 head of Montana whiteface steers averaging 907 pounds. He fed them 108 days, then sold them when they reached 1,350 pounds. Average daily gain was a sensational 4.1 pounds. They graded *choice* and dressed out at 62.11%. "This was the best lot of cattle I've fed in 13 years of feeding," Mr. Rubendall declared. "I feel that 'Stilbosol'-fortified supplement has given us an extra pound of gain per day ever since we have used it."

An interesting side light to the Rubendall operation is the acreage he uses to raise peas for a nearby canning company. He plans soon to start a batch of cattle on ensilage made from the pods and vines, and then finish them off with a ration of grain and 'Stilbosol'-fortified supplement.

Byron Kier, feed manufacturer's representative (left), keeps feeders alert to new, money-making production practices. Rubendall (right) was one of the first in Iowa to use supplements with 'Stilbosol.'

Stilbosol

(Diethylstilbestrol Premix, Lilly)

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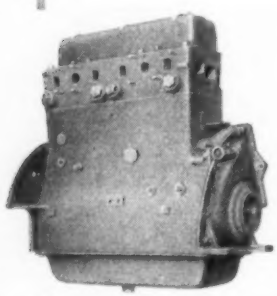

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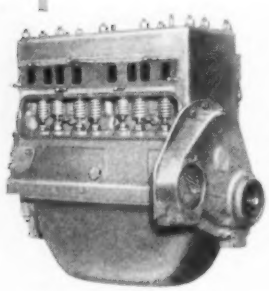

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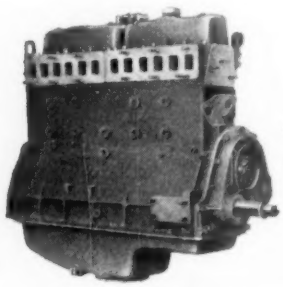

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better. They are practices that make a farm larger because the root zone as a storehouse for water and plant nutrients is enlarged. A field demonstration of this practice will be a crowd gatherer. But it takes lots of equipment, planning and work before and after the demonstration.

The demonstration should be conducted when the soil is dry because the subsoiling action will shatter the soil layers and leave more air pockets in the soil than if it was moist or wet.

Equipment needed will include a powerful crawler tractor to pull the sub-soiler, a forage harvester and tractor. The sub-soiler must be altered by adding wings to hold open a V-shaped channel about 20 inches deep into which the chopped straw is blown. The channel should taper from six inches wide at the top to two and one-half inches at the bottom. The vertical mulch channels can be spaced 80 inches apart or less, depending on the soil type and need for organic matter and drainage.

Vertical mulching helps drain the land vertically after a severe rain. The mulch-filled channels funnel water into the subsoil much better than does an ordinary subsoil channel. If the channels are on the contour, they serve as miniature invisible terraces on sloping land.

Earthworms like vertical mulch-filled channels and their life activities improve the soil.

Vertical mulching is a new practice, but there is considerable interest in it. One farm equipment company has already built a vertical mulcher but there is still a great need for demonstrating the practice. Farmers who live on soil that has been abused by cultivation believe that vertical mulching is a valuable reclamation practice for their soil. Many of these farmers need more information about the pH, lime requirement, available phosphate and available potash and needs for nitrogen for different crops. Information of this nature was prepared in November, 1957, by the Purdue University Soil Testing Laboratory.

Soil Test Summary

Between 1952-54 the Purdue Soil Testing Laboratory tested a little over 65,000 samples for farmers in Indiana. A summary of these tests was prepared to show differences in fertility and acidity levels as they exist in different soil types and in different counties. The summary was made through the use of IBM electronic sorting and computing equipment.

Less than 10 percent of Indiana farmers have specific soil test information to use in setting up fertilizer programs. For this reason, a summary of this kind offers a valuable source of information as to lime and fertilizer

needs on farms or in areas where soil tests are not available. County agents are finding this information exceedingly helpful in giving more accurate lime and fertilizer recommendation by letter, telephone and at meetings. Vocational agricultural teachers have an excellent opportunity to assign lime and fertilizer problems.

In conclusion, let's look ahead to the Centennial year of the American Society of Agronomy. Many of us find it almost impossible to dream of what will be new in soil husbandry in 2007, but past and present research accomplishments fill us with anticipation for living in these years ahead. —*End*

★

"Look at Hupple—taking all the credit for his pasture improvement program when he actually got the whole idea from the county agent!"

A New Filmstrip

Each year some 500 agricultural journalism graduates are needed to fill jobs in all areas of agricultural communications.

To encourage enrollments in agricultural journalism as one means of meeting this growing need, the Office of Information of the U. S. Department of Agriculture has released a 30-minute color filmstrip on careers in agricultural journalism.

"A Job for You in Agricultural Journalism" was made for journalism and creative writing groups or classes in senior high schools and in the freshman year of college. Comprised largely of photos of agricultural journalists working in various fields, it points out the educational requirements and career opportunities in agricultural communcations.

Prints are available from Photo Lab, Inc., 3825 Georgia Ave., N. W., Washington 11, D. C., for $4.50. Cardboard mounted slides (2 x 2) may be purchased for an additional 5 cents per frame.

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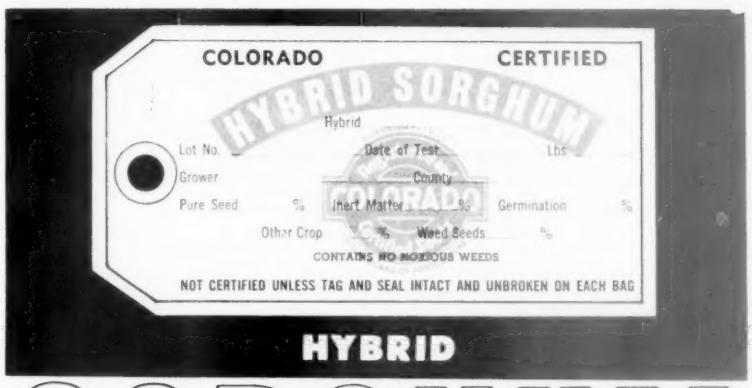
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PACEMAKER CROWN GRAPHIC

Which of these cameras would you choose to take pictures of your work? Before answering this question, you might like to read this article that tells some of the things to look for when selecting a camera.

POLAROID LAND CAMERA

BELL & HOWELL MOVIE CAMERA

Which Camera Should You Buy?

By William Paul Gray

● AG LEADERS are often faced with the problem of buying a camera for their work. And with the wide selection now available, it seems the task of selecting the right one is almost impossible.

You'll want to look for a camera that will serve dependably for many years. At the same time, you should not pay for more camera than you can use.

Before we get into the discussion of cameras, however, let's spend a little time learning how a camera works. It is really quite simple, in spite of the very complicated looking knobs, levers, and gadgets you will find on some cameras.

Reduced to its essentials, a camera is nothing more than a light-tight box. There's a lens at one end to project an image, and a device at the other end to hold light-sensitive material, such as film, on which the image falls.

One of the first things you learn when looking for a camera is that there isn't any one best kind. Most photographers generally have more than one camera. They use the one that is best suited for the job to be done.

But, it isn't necessary to have an assortment of cameras, or even an expensive one, to learn photography. Basically, all the standard cameras work about the same way, and all of them will take excellent pictures. Let's look at some of the basic features of these cameras.

First of all, most of them have a device for moving the lens toward and away from the film. This procedure is known as focusing. In some cameras the lens moves in and out at the end of a leather bellows; in others, in a threaded tube; but in all except the cheaper cameras, the lens is movable so you can focus it at just the right distance to give you the sharpest picture.

As used in a camera, the lens must regulate the amount of light it lets through to the film. This feature can be compared with the human eye. You know if you go directly from a dark room into the bright sunlight, it takes a few minutes for your eyes to become accustomed to the stronger light. That's because you have an automatically operated diaphragm just in front of the lens of your eye which opens or closes as the light intensity changes. Your camera lens needs such a variable diaphragm, too. It is generally fitted with a small lever and a scale of numbers so you can set it to suit many light conditions. It is called an iris diaphragm, after the iris of the eye.

In addition to the diaphragm, your camera needs a shutter to let the selected amount of light through for the right length of time. The most common shutter is the "between-the-lens" type. As the name implies, this shutter is part of the complete lens and a series of springs permits it to open and close. The shutter mechanism can be set to open and close as you press the release, or to give a wide range of automatic exposures, generally from one second to as short as 1/300 second—even less in the better miniature cameras.

Another type of shutter consists of a roller blind with a slit that can be made to move past the film, letting the light through and exposing the film. Shutters of this kind are generally placed just in front of the film and are called "focal-plane" shutters. Focal-plane shutters can be set to give exposures as short as 1/1000 of a second or less.

Types of Cameras

1. FOLDING CAMERAS may be as simple to operate and limited in picture-making potential as the box camera, or they may have lens, shutter, and accessories which greatly increase their picture-taking ability.
2. SINGLE LENS REFLEX cameras use the same lens when focusing the image on the ground glass for viewing, and when focusing the image on the film for exposing the picture. For focusing and viewing, a hinged mirror is interposed between the lens and the film. The image from the lens is then reflected on the ground glass in the top of the camera. The mirror springs out of the way just before the exposure.
3. THE TWIN LENS REFLEX type of camera uses two matching lenses of the same focal length. One focuses the image on the viewing ground glass in the top of the camera by means of a fixed mirror. The second lens focuses a similar image on the film. As the lenses are directly coupled, and are of identical focal lengths, they will be focused together at all times. The viewing lens always remains at full aperture for focusing; the taking lens remains stopped down.
4. MINIATURE CAMERAS are compact, easy-to-carry cameras which usually feature fast lenses and rapid shooting. You can obtain almost any variety of lens and shutter combinations.
5. THE POLAROID CAMERA includes all the essential working parts of other cameras described in this article. In addition, it provides self developing that gives you a copy of prints and transparencies in a matter of minutes.

Facts About the Lens

The lens is the most vital part of your camera. It determines the quality of the pictures, the minimum light with which they may be taken, and the minimum exposure for a given light. The picture-taking ability of the lens depends on its construction—how big it is, and how many elements (single optical forms) and cells (groups of elements) it has. It may be composed of one element or several. In general, the more complex the lens, the greater its ability to bring into focus divergent lines, objects of different colors, light which enters the lens near its margin, all the objects in a plane, and to record the straight lines of the subject as straight lines on the film.

LENS SPEED. The speed of the lens (the amount of light it will gather and focus upon the film) is expressed as the "F" value. This is a number obtained by dividing the distance from the lens to the film (called the focal length of the lens) by the diameter of the lens aperture at its largest opening. Thus, a lens having an 8-inch focal length and a 1-inch aperture is called an f/8 lens.

Coated lenses have an extremely thin, hard chemical coating which reduces reflections at their surfaces.

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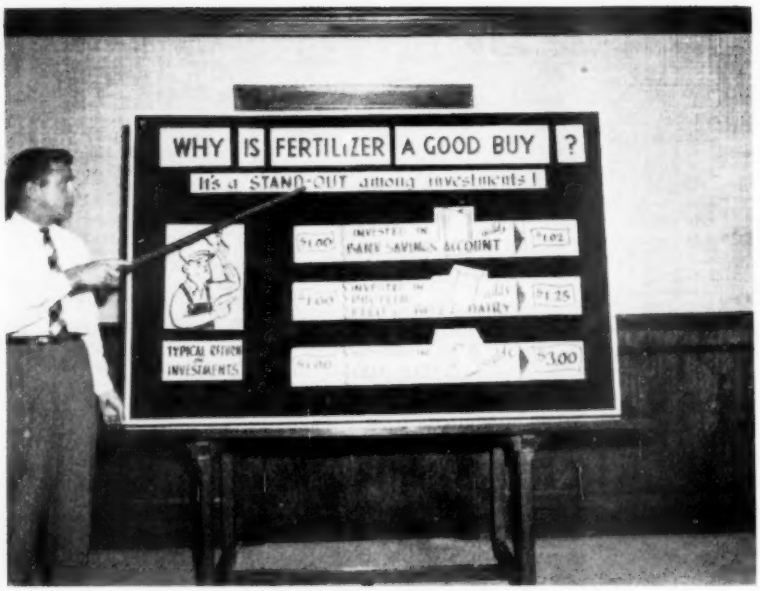


Explaining why fertilizer is often the best investment a man can make, Spencer Agronomist Arlie Woltemath uses a "flannelgraph" board to make his presentation easier to follow. (See story below.)

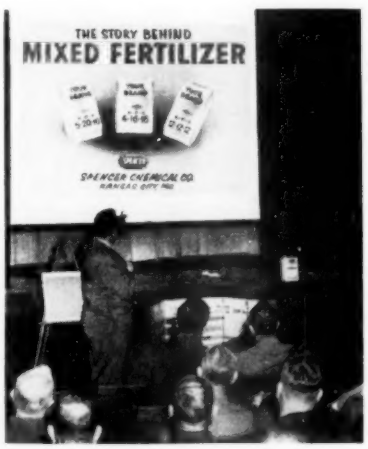
How Spencer Agronomists Can Help You With Your Educational Programs:

IN CASE you didn't know it, your Spencer Agronomist can be a mighty big help to you with meetings! For example, take Arlie Woltemath, one of Spencer's Agronomists in the Midwest. You'll often find him serving as a speaker at meetings, or helping to *plan* a meeting that he is unable to attend. Of course, Arlie's help doesn't stop there!

In addition, he supplies free literature for distribution at meetings, plus color slides and 16 mm movies on corn, cotton, pasture and fertilizer manufacturing.

Like all Spencer Agronomists, Arlie also works with youth groups throughout his territory, helping to establish Efficient Corn Growing Programs and many other projects.

If you would like to know more about the help Spencer's staff of agronomists offers to farmers and farm youth in your area, write direct to Spencer Chemical Company at the address shown below:



For meetings, Spencer supplies slide sets and film strips on growing maximum-profit corn, better pasture, etc. And Spencer Agronomists, *conduct* many meetings, too.

SPENCER CHEMICAL COMPANY
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Makers of "Mr. N"
Ammonium Nitrate Fertilizer

Since these reflections normally produce haze, coated lenses make clearer, sharper pictures.

How About Focusing?

Focus is the means by which you calculate the proper distance setting for your lens. It is particularly important when shooting close-ups, using fast lenses at wide apertures, and when the negative is to be enlarged to any extent.

FIXED FOCUS. A lens of slow speed is fixed at a set distance so that all objects beyond six to eight feet are in sharp enough focus for making contact prints. Though limited in ability, fixed focus lenses simplify shooting for the snapshot fan.

SCALE FOCUSING. Camera-to-subject distance is measured or estimated by eye. This distance is set on the lens mount or bed focusing scale, which is calibrated in feet. Accuracy depends on measurement of camera-to-subject distance.

RANGEFINDER FOCUSING. Distance is computed by adjusting the rangefinder until the two images of the subject, seen through the rangefinder, come together. These are either super-imposed or split-image. The rangefinder's footage scale indicates the distance at which the camera should be focused. Coupled rangefinders focus the camera as the rangefinder is adjusted.

REFLEX FOCUSING. Subjects brought into focus on the ground glass will be in focus on the film. With a single lens reflex, as lens is stopped down, depth of field is shown (area of focus before and behind subject focused upon). With a twin lens, reflex depth of field is not shown, but image remains bright when lens is stopped down.

Finally, never forget that the camera is, after all, only a mechanism—devoid of sense or imagination. It may cost a thousand dollars, but it is just as dumb as a fistful of mud. It is more dependent on you than a brand new baby on its doting mother. Your camera can "see" only as you allow it to see; it cannot take matters into its own hands and balk at attempting the impossible. It is your unquestioning, totally submissive slave. So the responsibility is entirely yours.—*End*

★

Asian Flu Egg Market

Producers of influenza vaccine are using millions of incubating eggs to grow Asiatic flu virus. However, Agricultural Marketing Service officials say that divergence of eggs to this use is not likely to have much influence on the average price of eggs.

A report from General Chemical on

2 NEW WEED KILLERS

for non-crop use

UROX®
WEED KILLER

Urox is an entirely new chemical herbicide in granular form, developed by General Chemical Division Research. Field tested on a wide range of annual and perennial grasses and broad-leafed weeds, it has given outstanding control for as long as *12 months*. This means that under average growing conditions, unwanted vegetation can be virtually wiped out for a full season without the use of excessive amounts of herbicide. Furthermore, because the effects of Urox are cumulative, herbicidal action can be continued year after year by applying very small "booster" doses annually.

Weed Control With Urox Costs Less

1. Because applications are made only once a year under normal growing conditions.
2. Because long range weed control is achieved with small amounts of Urox.
3. Because Urox can be applied without using expensive equipment.

Granulation Gives Penetration

No water is required for Urox applications. The herbicide is used without dilution in its granulated form. Aside from making weed treatment easier, the use of Urox granules is responsible for its tremendous success in controlling dense vegetation. When these potent grains of herbicide hit heavy top growth, they simply roll off the foliage to the ground where the killing ingredients are absorbed by the roots.

Urox is Safer to Use

It is non-flammable when used as directed . . . especially important on tank farms and other areas where combustibles are stored.

Low toxicity to animals is another reason why Urox is preferred as a herbicide.

Dramatic demonstration of HCA's effectiveness—a single application on test area gave season-long control of Johnson grass.

HCA WEED KILLERS
for fast, easy control of Johnson Grass and other weeds in non-crop areas

"Hard-to-kill" Johnson Grass and other grassy weeds in non-crop areas are now easy to kill—with HCA Weed Killers. HCA is the trade name for Hexachloroacetone, a highly potent non-selective herbicide for non-crop areas. Recently developed by General Chemical, these wonderful new weed killers have proved all over the country that they give fast and easy control of Johnson Grass.

Immediate Results

HCA "kills back" top growth in from 12 to 48 hours after spraying. Weeds start to wilt within 3 hours. Completeness of coverage can be checked before leaving area.

When used as directed, the *first* application of HCA kills all surface growth . . . kills up to 90% of root growth!

How HCA Works

HCA does this big job by "teaming up" with ordinary weed oils. It gives a terrific increase in weed oil effectiveness while, at the same time, it kills roots and prevents growth.

Easy to Use, Economical

HCA comes in two forms, both low in cost and easy to apply. *HCA Weed Killer Concentrate*—gives excellent results with any low aromatic oil. *HCA Weed Killer*—a ready-to-use spray product.

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FARMER INSTRUCTOR — John Waldo tells other farmers the strong and weak areas of his farm program.

"I Let Farmers Help Me Teach"

Says Farm Management Instructor Harry Peirce, "My teaching job is much easier when I let farmers take part in the program of instructions."

By Harry E. Peirce

● FARMERS HELP ME teach farm management!

Why not? After all, who could present a more convincing argument in favor of a sound farm management program than a farmer who has been in it? He knows from experience the time it takes to keep the records; he has had his farm business analyzed, and; he has already experienced some benefits from making management changes.

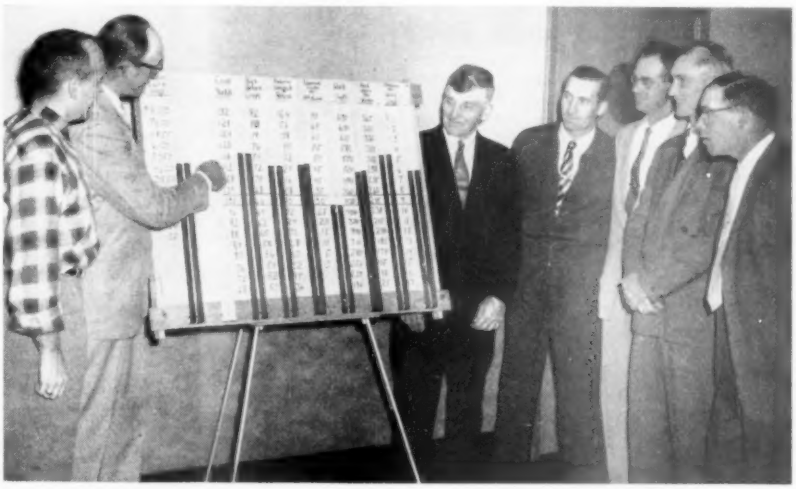
I have found this teaching aid especially effective in introducing the *Minnesota Vo-Ag Farm Management Program** to farmers in southeastern Minnesota. The purpose of this program is to analyze the farmer's farming operation in order to find the strong and weak areas, therefore enabling the farmer to make more effective management changes. The ag teacher gives instruction in recordkeeping techniques, and in turn utilizes the valuable analysis information in his adult, young farmer and high school agriculture classes.

Let's face it. To most farmers the idea of improving their farm management program by keeping better records and record analysis is new and unappealing. Ag teachers can talk about farm management and show slides and films until they are blue in the face, and most farmers are still disinterested. However, you put another farmer before them, armed with his own experiences, and they will listen. They'll believe him when he says the farm account book (including feed records) is not too difficult, because they know he probably only had an eighth grade education. They also readily believe that he has benefited from the farm management program because he has prospered.

John Waldo, shown in the picture above, has helped me several times in this manner at local and area meetings. He uses the large thermometer chart to point out the strong and weak areas in his farming program. This chart illustrates how he ranks with the average farmer in respect to farm earnings and seven important farm management factors. Waldo has completed three years in the Minnesota Vo-Ag Farm Management Program and therefore speaks with self assurance.

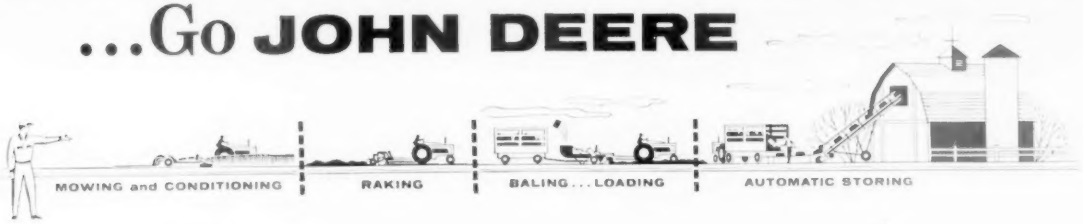
The first year he had a few problems with the account book, but cooperation with the ag teacher ironed them out. The second year, the recordkeeping had fallen into a relatively simple pattern. The five-year depreciation schedule was easy and when combined with the special tax form, his income tax filing became much easier and more accurate.

Waldo explains that at the end of the first year, he thought he and his father had done a better than average



FARM THERMOMETER — John Waldo uses a thermometer chart to show how his farm ranks on the seven farm management factors. Looking on are Ag Instructor Harry Peirce, left, and Farmers Chris Oech, Anthony Goebel, Malcolm Hobbs, Charles Waldo, and Henry Meyer.

Make Your Hay the ONE-MAN WAY ...Go JOHN DEERE



You'll Cut Costs and Work at Least in Half!

ONE MAN can now mow, condition, rake, bale, and store his hay crops *alone*, thanks to John Deere's new One-Man Hay-Handling System. For home feeders, this new system means faster, easier work at lower cost . . . better hay in the barn.

The *new Bale Ejector Attachment* for *all* John Deere 14-T and new 214-T Twine-Tie Balers *loads wagons automatically*. These balers are easily set to make bales approximately half size and the Bale Ejector tosses them directly into the high-sided wagon behind.

One-Man Crew

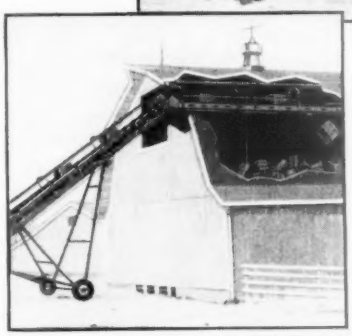
One man drives the tractor—*and that's your baling crew*. You completely eliminate men on the rack and bale-pickup men. And, to top it off, the simple Bale Ejector *costs, in most cases, less than a hired hand's salary for a single haying season.*

The John Deere Bale-Size Elevator and Barn Conveyor *store half-size bales automatically. One man* easily feeds the half-size bales into the new 8-foot elevator hopper with a fork. A new Bale-Guide Attachment keeps short bales elevating, even at steep angles.

The new Barn Bale Conveyor distributes bales throughout the barn at 10-foot intervals. No stacking is required. Half-size bales tumble into place—fill the barn to conveyor height. Owners claim that little space, *if any*, is sacrificed.

The low-cost Barn Bale Conveyor is electrically driven, simple, rugged, and easily hung from the hay track or ridge pole of the barn.

Profit this year with the new John Deere One-Man Way of Making Hay. See your John Deere dealer *early!*



New 8-foot general-purpose hopper and bale-guide attachment adapt elevator for short bales (above, center). Barn Bale Conveyor is illustrated above.

Store Bales Automatically

Any John Deere Bale-Size Portable Elevator and the new Barn Bale Conveyor store bales automatically. No stacking is required—you eliminate men in the mow.

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You get the full profit-power of 82% nitrogen when you put down Phillips *66* Agricultural Ammonia pre-plant on corn, grain sorghums and other row crop land. And, because it is the most concentrated form of nitrogen fertilizer, you get more nitrogen per dollar.

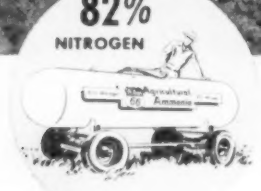
This profit-powerful nitrogen gets crops off to a fast start and sustains growth through maturity . . . for more profit per acre from lower production costs and higher yields. Phillips *66* Agricultural Ammonia becomes quickly available to your plants. This develops longer, stronger root systems that utilize more available moisture.

You can support greater plant population, too. Next to moisture, nitrogen is the most important factor in supporting more plants per acre And it helps to increase the *yield per plant*.

Remember, for more profit per acre, see your local ammonia dealer about Phillips *66* Agricultural Ammonia and get the full *profit-power* of 82% nitrogen.

Phillips 66

82% NITROGEN



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job of farming. However, the thermometer chart showed they were below the average in three areas: Livestock per 100 acres, percent of high return crops, and expenses per work unit. They also were only slightly above average in crop yields, though some fields were quite high in hay and corn yields.

It was only natural that he should be interested in determining how he could raise these factors because he knew the close correlation between above average factors and higher earnings. That is, as the factors go up, the earnings do likewise. A close examination of his farming program revealed that he was falling down in these four important areas because of some additional land of low fertility that he had been renting. The poor crops on this additional land were barely paying for its rent, extra labor and equipment costs.

At the end of the second year, the analysis of his farming program showed that by not renting the additional land and fertilizing his own a little more, his yields skyrocketed, expense came down, labor efficiency improved, and his net income went up. What could be more convincing to a group of farmers than a testimonial such as this?

"How much time does it take to keep these records?", farmers ask Waldo. Answer: "About an hour a week—hardly any more time than it takes to keep records for income tax."

Now then, while the interest is still high, I follow-up by outlining the Minnesota Vo-Ag Farm Management Program. I also describe other examples that bring out the importance of sound farm management principles.

Of course, it has long been recognized that the experienced farmer who is willing to discuss his experiences, is a valuable teaching aid. The fact is, however, that many of us overlook these "assistant instructors" and consequently many ag instructors are hesitant about teaching farm management as such, because they feel inadequately prepared.

What if you don't have a farmer who has been keeping the farm record book? Then borrow one from your neighboring ag teacher. On the other hand, you may be able to organize a panel.

Utilize the talent in your community if you're looking for an effective way to bolster your farm management program. The results will surprise you.—*End*

* *The Minnesota Vo-Ag Farm Management Program began in 1947. In 10 years it has become the core of the vo-ag adult farmer evening classes. A complete description of this program appeared in the March, 1956, issue of "Better Farming Methods".*

NEW BOOKS

These new ag books are listed here as a service to our readers. For more information on any title, write directly to the publisher. For your convenience, you may order any title from: Service Section, Watt Publishing Company, Mount Morris, Ill.

SWINE FEEDING AND NUTRITION, published by Interscience Publishers, Inc., 250 Fifth Ave., New York 1, N. Y.

Author: Tony J. Cunha, Head, Department of Animal Husbandry and Nutrition, University of Florida. **Publication date:** 1957. **Data:** First edition, cloth bound, 296 pages. **Price:** $5.00.

This is a clear account of how the most modern principles of animal nutrition can be applied in the formulation of feeds and in the management of a herd.

CROP PRODUCTION, published by The Macmillan Co., 60 Fifth Ave., New York 11, N. Y.

Authors: Harold D. Hughes and Edwin R. Henson, Iowa State College. **Publication date:** September 3, 1957. **Data:** Revised edition, cloth bound, 620 pages. **Price:** $6.95.

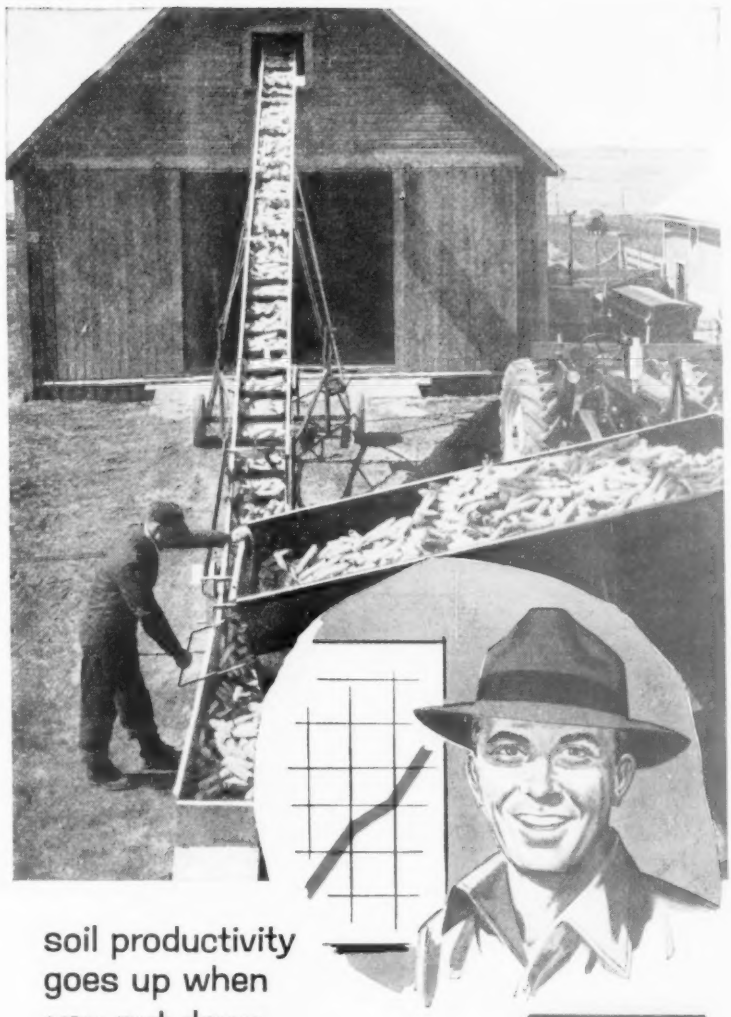
This is primarily a college text that gives latest research and accepted production practices for the major farm crops.

MACHINES FOR POWER FARMING, published by John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y.

Authors: Archie A. Stone, Head, Department of Agricultural Engineering, State University of New York, Farmingdale, N. Y.; and Harold E. Gulvin, Head, Farm Supply Research, Eastern States Farmers Exchange. **Publication date:** September 11, 1957. **Data:** First edition, cloth bound, 616 pages. **Price:** $5.95.

This book was written to help the student in selecting, using, and maintaining typical farm machines.

SELF-PROPELLED WINDROWER — The operations of cutting and windrowing of small grain or hay are combined in the new self-propelled Dearborn windrower, recently introduced by Tractor and Implement Division, Ford Motor Company. The first self-propelled implement to be brought out by this company, the machine features 30-horsepower engine and center delivery to the windrow.



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What's new in . . .

POULTRY HUSBANDRY

By A. W. Brant

Eggs in Chicken Feed?

If this sort of thing went too far there wouldn't be any eggs left for humans. It has been shown, however, that egg yolk contains a growth-promoting factor. So far, it has not been identified, but several things have been discovered. The factor is in the fat portion of the yolk, not the protein. It is destroyed by heat and by ultra-violet light and it is not present in the ash of egg yolks. Concentrates have been prepared which have about 30 times the potency of egg yolk. Products prepared from hatchery wastes contain the factor but this source couldn't begin to supply all that is needed. Present predictions are that if a cheap, plentiful source can be found, another 5 to 10 percent increase in broiler growth and feed efficiency might result.

A. W. Brant

Wet Droppings

Few cage operators have escaped the problem of wet droppings at one time or another. One interesting proposal for control is water restriction. Usually the problem is the other way around—how to get poultrymen to give their birds enough water. Cage operations have upset many of our ideas gained from floor management, so maybe this is another case. The idea came from noticing that birds voiding wet droppings were drinking more than the other birds. The water was restricted by providing water three times a day for 15 minutes each time. The droppings were considerably less moist than when water was provided continuously. Production and body weight were not affected by the treatment in the 12-week experiment. This may not be the final answer, but most anyone could try it.

Water-Soaked Barley

This one should have been discovered by the moonshiners. Maybe they were too busy running from "revenooers." Poultry scientists at Washington State College have reported that soaking cereal grains in water overnight at room temperature and then drying gave an improvement in nutritional value. There appears to be an increase in digestibility. The process was effective on barley, pearled barley, oats, corn, and other feed ingredients, but gave the most improvement on barley and oats. The same workers also found that some enzymes will improve the utilization of barley. There has to be another explanation for the water-soaking effect, however, because it is still present when the enzymes have been destroyed by heat.

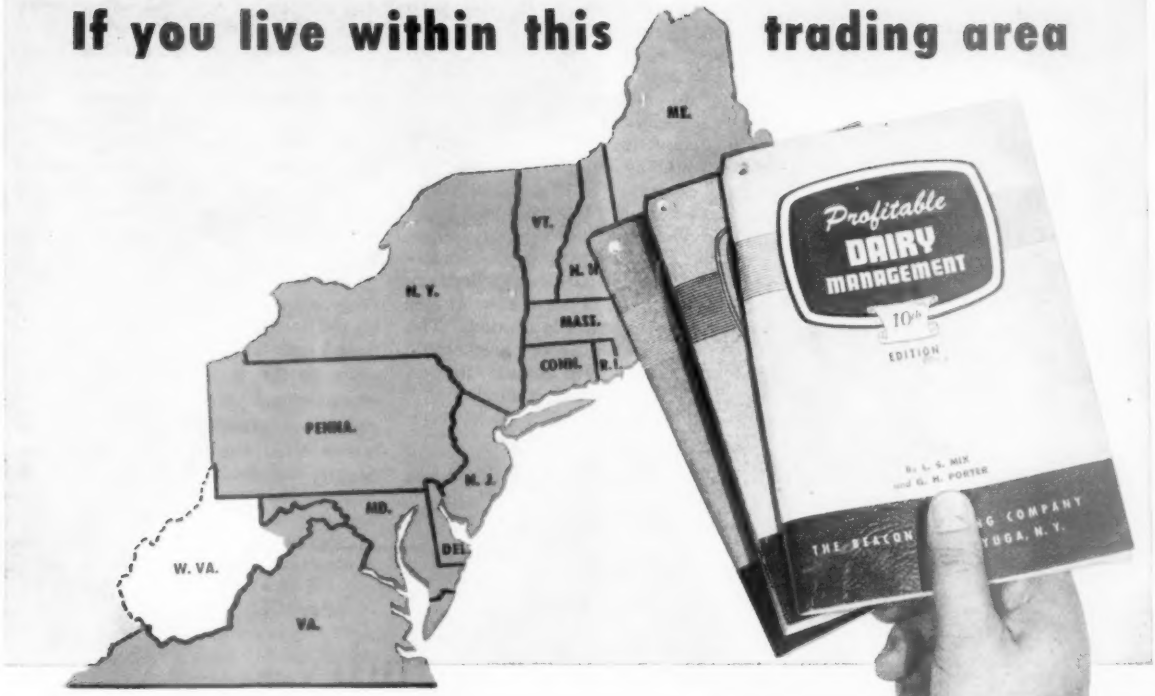
Poultry Products Inspection

Probably the biggest news event of the year was the passage and signing of the Poultry Products Inspection Act. The Act provides that after January 1, 1959, all poultry moving in interstate commerce will be inspected for wholesomeness. The first inspections under the Act are expected to begin about May 1, 1958. Some poultry not in interstate commerce will also be inspected because the Secretary of Agriculture can, upon request of local groups, designate consuming areas where all poultry will be inspected even though it may not cross a state line. Processors will not pay for this service since it is to be supported by appropriated funds. The poultry industry was generally in favor of the Act and deserves congratulations for this forward-looking attitude. There is every reason to believe that it will increase the consumption of poultry meat, thus benefiting the poultry industry as well as the consumer.

Integration

This has undoubtedly been the most widely discussed topic in the poultry field during the last year. Much more will probably be said in the years to come. Some say it marks the end of independent producers with vague hints that "rugged individualism" is on the way out, too. Others say it is a

If you live within this trading area



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"PROFITABLE POULTRY MANAGEMENT" *(C. E. Lee, O. A. Rowoth, R. E. Miller) — 22nd Edition; 280 pages.* Sections on proper feeding and nutrition, breeding, egg production, culling, housing, broiler production, caponizing, parasites, disease and disease control, posting, sanitation and many other subjects. Often used as an agricultural textbook. Dozens of photographs, diagrams and drawings, including pictures of equipment, recommended housing and illustrations to aid in disease recognition. **Price $2.00**

"PROFITABLE TURKEY MANAGEMENT" *(S. W. Hamilton) — 9th Edition; 160 pages.* Complete turkey management manual. Covers feeding programs and nutrition, breeding, selection of breeders, artificial insemination, brooding, raising birds on wire or on range, killing, dressing, parasites and diseases common to turkeys, also many other subjects. Includes diagrams, plans, sanitation measures and programs. Completely illustrated with photographs and drawings, charts and other data valuable to the commercial turkey raiser. **Price $1.40**

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Beacon publishes other detailed management books on additional aspects of poultry and livestock management and marketing. Like the three books mentioned here, they are free within the Beacon distribution area. Write for complete list.

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perfectly natural outgrowth of increasing requirements for operating capital necessary in large-scale production—a method of spreading surpluses because production does not decrease soon enough when there are low prices paid to producers. Others say that by giving the producer some protection from low prices, unduly high profits by supporting industries (feed dealers, hatcherymen, processors, etc.) are prevented. Some say the poultry industry is pioneering a whole new management and financing system for agriculture. Others say the free enterprise system is in danger and legislative action is needed. The outcome looks no more predictable than next fall's World Series. Should be interesting to watch, though.

Social Behavior

Chickens and all other poultry have always been noticeably prone to decide who is boss. Hence such phrases as "rule the roost" and "cock of the walk." This facet of poultry personality is likely to become as important to future reduction in production costs as feed efficiency. Ranking high in the social order of the hen house depends on aggressiveness. The aggressive male usually has a better fertility record than the meeker ones although he can be so aggressive as to spend nearly all his time fighting. The female, however, who dominates all her sisters is apt to show poor fertility. Degree of aggressiveness appears to be partially inherited. The overburdened geneticist may have to add another factor to his list for selection in order to have males with just the right docile-aggressiveness and females with the proper aggressive-docility.—*End*

What's new in . . .

Beef Husbandry

By L. S. Pope
Oklahoma A & M College

● OPTIMISM IS THE WORD that best describes the current feeling of most cattle producers. After six years of unfavorable prices, most experts think we are on the upswing of a somewhat shorter beef cattle price cycle.

Although the extent of the recovery may hinge on the general economy of the nation, the fact that cattle prices are $4 to $6 higher on almost all classes of cattle than last year is already causing a boom in female demand.

Is there a true and permanent upturn in the cattle business? Most experts say "Yes" and base their answer on some pertinent facts. For example, the U. S. population is mushrooming —nearly 4 million new mouths to feed each year. A probable population of 200 million by 1970, plus a higher percentage of the population in the "beef eating" class, means that we will need 27 percent more beef than we now have to satisfy the demand. Thus, many experts see little need for a drop in cattle numbers in order to trigger a rise in cattle prices. Then, too, the tendency to market cattle at younger ages and lighter weights means that we can increase numbers without affecting the tonnage output of beef as much as in the past.

As hopeful as all this sounds, leaders in the cattle industry caution against the desirability of a boom in cattle prices similar to the late '40's. Good times may not be best in terms of improvement of the beef industry. More efficient management and better breeding and culling practices are often associated with hard times in the industry. And to force cattle prices in line will be strong competition from pork and poultry products.

What's Ahead for Cattlemen?

Looking ahead in 1958 and the years beyond, what's the best program for the cattle industry? As always, there are three ways to make money: Produce more, sell the product for more money, or cut costs. It is the first and last areas—greater production at lower cost—that offer the greatest possibility for increased profits, regardless of the fluctuations of the cattle price cycle.

In terms of greater production, the cow-calf producer needs to take a hard look at low percentage calf crops, or cows that fall in the "400 lb. weaning weight" class. Intensive culling of poor producers, plus increased attention on regularity of reproduction, weaning weights and gaining ability in calves are a must. Wide variability

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exists in every herd of cows when it comes to mothering ability. Research with 100 cows at the Ft. Reno station in Oklahoma, shows the variation one can expect in mothering ability. After 7 calves, the top producers had weaned nearly 750 more pounds of calf, worth nearly $150 more, than the poorest producers in the herd under the same conditions of feeding and management.

As for bulls, the cattleman has long known that some do better than others, but often is amazed at just how much. Here are some facts about two bulls which were used on the above herd of cows for two years. Each year they were mated to 28 cows of equal producing ability. The steer calves each year were full-fed for 165 days, or to a Choice grade; the heifers were retained to go back into the herd. Both bulls would be considered as top quality range bulls, thick and meaty with a mature weight of 1800 to 2000 lbs. Yet the records show that one bull sired calves 34 lbs. heavier at weaning, and that his steers outgained those by the other bull by 0.25 lbs. per day in the feedlot. At 18 months of age, his daughters that were put back into the herd averaged 114 lbs. more, and perhaps most interesting of all, they weaned calves that weighed 36 lbs. more over the first two years of production.

FEED TALK

Set up a Demonstration

Many good demonstrations, using data from record-of-performance herds, can be arranged by extension workers. No better testimony for performance testing can be found than the good and poor producers within a commercial or purebred herd. "Gain tests" with bull calves are not difficult to establish with local producers, using the advice and counsel of your cattle extension specialist.

Implants Can Increase Growth

What about increasing gains and cutting feed costs? Perhaps the most widely publicized method has been the use of stilbestrol, either fed or implanted at the base of the ear. Recently, much attention has been given to implanting stocker cattle, and even young suckling calves. Adverse side effects may be avoided by keeping the level low (24 to 36 mg. for yearlings, for example). Montana tests in large commercial herds have shown a 12 to 21 percent increase in gain from implanting yearling steers in May with 12 to 36 mg.

Tests in the Midwest and Southeast on improved temporary pastures have shown even greater response. Oklahoma tests with suckling beef calves, implanted at 100 days of age with one 15 mg. pellet, have shown an increase

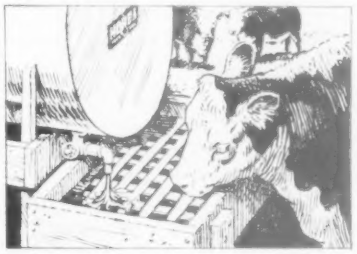
Ever hear of a *hydrogen donor*? It has nothing to do with hydrogen bombs or atomic power. But it's mighty important in the profitable feeding of cattle and sheep—the ruminant animals with four stomachs.

The "first stomach"—or rumen—is a huge fermentation vat where billions of micro-organisms and protozoa assimilate feedstuffs eaten by the ruminant animal. They do this to nurture themselves. But, in turn, these micro-organisms and their products are consumed by the ruminant. Cattle and sheep get most of their nutrients by this natural process.

By studying this process, scientists have discovered that rumen micro-organisms require a *hydrogen donor* in combination with nitrogen, certain other elements, and energy, to build protein. They have also discovered that ethanol is a highly-efficient *hydrogen donor*.

MOREA® Liquid Feed is the only feed supplement that contains ethanol. MOREA Liquid Feed also contains urea nitrogen, phosphoric acid, trace minerals and molasses. Fed "free choice" to ruminants, MOREA Liquid Feed enables rumen micro-organisms to build high-quality protein and to assimilate a much higher ratio of economical roughage to grain. The result is high-quality meat and milk produced at low cost.

It will pay you to investigate the many money-saving, profit-making advantages of MOREA Liquid Feed. Thousands of leading stockmen and dairymen are now using MOREA Liquid Feed with outstanding success. They are reducing their feed costs, using more low-cost roughage and less grain, and producing more high-quality meat and milk.



MOREA Liquid Feed is so new in some areas that distribution is just being set up. MOREA Pre-Mix for making this profit-building new feed supplement for cattle and sheep is produced by U. S. Industrial Chemicals Co., New York 16, N. Y. and by Feed Service Corporation, Crete, Nebraska.

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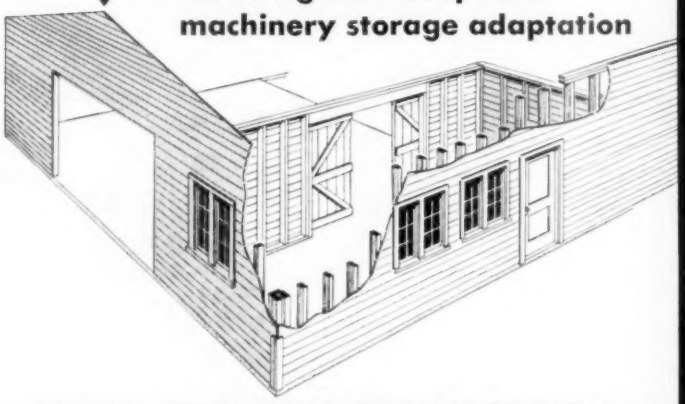

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of 32 pounds in weaning weight. A question that still has to be answered is: "What happens to feeder cattle that have been implanted on grass when they are placed in the feedlot?" Several tests are now in progress to answer this question.

New Cattle Insecticides

New systemic insecticides are being developed for the control of cattle grubs. Several states allow the use of a systemic insecticide, which given either as a bolus or drench can kill grub larvae before they have punctured the hide. The majority of the tests indicate a 75 to 90 percent effectiveness for the material. On-the-farm demonstrations of these new grub killers could be a worthwhile project in 1958.

Be on the lookout for outbreaks of Leptospirosis, commonly called "Red Water disease." The incidence of this disease has spread rapidly in many parts of the country. Blood tests are difficult and vaccinations are not sure. Some antibiotics appear to be helpful. The advice of a competent veterinarian should be sought if abortions in Bang's free herds, depression and death loss among young calves runs high.

Losses from shipping fever and other respiratory infections may be greatly reduced by the use of antibiotics according to recent research.

Pelleted Feeds Being Studied

Pelleting feeds for beef cattle have given interesting results. Illinois tests with grinding and pelleting timothy-alfalfa hay for steers have shown a remarkable increase in feed intake over the same hay chopped or fed long (16 lbs. vs. 11 lbs. per head daily). This resulted in an increase in average daily gain from 0.62 for steers fed chopped or long way to 1.73 for those getting same roughage ground and pelleted. In Oklahoma tests, calves getting chopped or pelleted roughage free-choice in self-feeders placed side by side, consumed nearly 6 times more of the pelleted material. To date, the cost of grinding and pelleting is probably too high for practical use. However, new techniques for pelleting feeds are being developed and if basic research shows pelleting to be advantageous, cost may not be the limiting factor.

Even the most progressive cattleman must be awed by the changes that are taking place within the industry. As in nearly every phase of agriculture, the relentless pressure of narrowing margins is causing a frantic search for new methods. Even with higher prices in '58, profits may be hard to come by.—*End*

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To develop the most effective aldrin formulations, Shell Chemical research teams work with growers, county agents and entomologists in the field. For latest technical information, write to:

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38—Badger Catalogs

Several catalogs are available from Badger-Northland, Inc. for use by ag leaders. Get your copies today.

A—Badger Barn Cleaners
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From the Potash Division of International Minerals & Chemicals Corporation is a booklet entitled "When Your Tobacco Looks Like This . . .". Here is information on spotting trouble before it costs farmers money.

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40—From Plows to Lifts

Sherman Products, Inc. has two notebook-size pamphlets they would like to send you on their equipment. See if you don't find this valuable material.

A—Bury Trash as You Plow
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41—Prove by Performance

A colorful little pamphlet giving the advantages of using polyethylene pipe and describing its many applications is available from Bakelite Company. There is no charge for this booklet.

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CIRCLE 41

42—A Good Weed Killer

Amino Triazole is an excellent weed killer, and a pamphlet describing its use in weed control is available from the American Cyanamid Company. Now is the time to brush up on the latest chemicals for weed control, and this booklet will be of interest and help to you.

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43—Agricultural Chemicals

The Monsanto Chemical Company has a booklet, "Spray Away Weeds in Corn and Sorghum", which is yours for the asking. Get your copy by circling the postal card number below.

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44—All About Trucks

The American Trucking Association, Inc. has a booklet available entitled "Trucks and Things You Ought to Know About Them". Copies are free to ag leaders.

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45—New Crop Duster

This crop duster, developed by the John Bean Division, utilizes fan-shaped discharge nozzles to lay a pattern that has a total variation in dust discharge of only 1.3 percent. For more information about this new duster, circle the postal card number below.

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46—Fortified Disease Control

The General Chemical Division of the Allied Chemical & Dye Corporation invites you to send for a free copy of their booklet on the control of plant diseases and blights with Agrimycin 100 antibiotic plant spray.

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47—Vaccination Chart

A handy vaccination chart from Dr. Salsbury's Laboratories is available to ag leaders. Send for your free copy today.

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48—Grasshopper Control

The USDA expects heavy infestations of grasshoppers this year in many areas. Order this booklet and learn about grasshopper control. It is Velsicol Chemical Corporation's folder 503-10.

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49—Ideal Brahmans

The American Brahman Breeders Association invites ag leaders to send for copies of their charts on the ideal type Brahman bull and the ideal type Brahman cow.

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50—When It's Paint-Up Time

"All Around the Farm . . . There's Nothing Like Aluminum Paint" is the title of a folder available free to ag leaders from the Aluminum Company of America. Order your copy today.

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51—Make Buildings Last

The important points to consider in the construction of farm buildings are included in a booklet available from The West Coast Lumbermen's Association entitled "How to Build Farm Buildings that Last Longer." Ag leaders are invited to send for a free copy.

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53—What's Haylage?

Find the answer to this question from a booklet entitled "Haylage—Better

Than Hay" available from the A. O. Smith Corporation. You will want to learn about this new trend in livestock feeding.

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54—Installing Farm Pipelines

There are several factors to keep in mind when planning pipe installations for the farm. These points are covered in a booklet available from the Orangeburg Manufacturing Company, Inc. Order your copy right away.

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How to make galvanized roofing and siding last longer is the topic covered in a booklet available from the American Zinc Institute, Inc. They will be happy to send you a free copy.

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56—Pasture Recipes

"Blue Ribbon Recipes for Richer Pasture" is the title of a booklet available free to ag leaders from the New Holland Machine Company. Send for your copy.

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57—Emergency Power Source

This is International Harvester's Electrall generator that can be plugged into the regular farmstead electrical distribution system should the regular power fail. With this generator handy, farm work and home living can go on in times of powerline failure. You can get more information on this emergency power source by circling the postal card number below.

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58—High Level Feeding

Ag leaders are invited to send for a copy of Commercial Solvents Corporation's booklet entitled "High Level Feeding at Low Level Cost with BACIFERM, Zinc Bacitracin Antibiotic Supplements."

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59—Deficiency Symptoms

Molybdenum deficiency symptoms in crops is the subject covered in a booklet available free to ag leaders from the Climax Molybdenum Company. To get your copy, circle the postal card number below.

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CIRCLE 59

60—For Maximum Profits

The Spencer Chemical Company invites ag leaders to send for a copy of their booklet, "Five Steps to Maximum Profit Corn." The copy is yours for the asking.

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61—Slide Rule Computer

A slide rule computer for spray delivery is available from the John Bean Division. (Limit: One to each reader.)

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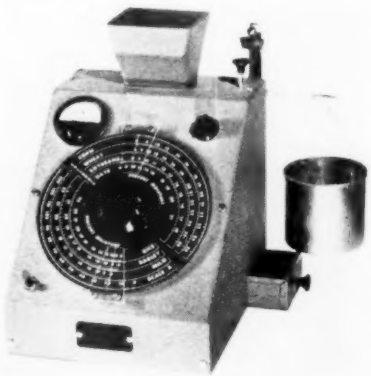
62—New Moisture Meter



A new, completely portable self-powered transistor moisture meter has just been announced by the Radson Engineering Corportion. This meter completely eliminates the need of picking up samples to carry to the tester. For more information on this new moisture meter, circle the postal card number below.

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63—Clipping Demonstration

You can get free materials on dairy cow clipping demonstrations by asking for this booklet from the Sunbeam Corporation.

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CIRCLE 63

64—Liquid Feeds

A new concept of liquid feeding for ruminant animals is discussed in a booklet about MOREA from U. S. Industrial Chemicals Company. Ag leaders are invited to get a free copy of this booklet.

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65—Protective Feeding

Hess & Clark, Inc. invites ag leaders to send for a free copy of the complete story of a week-a-month protective feeding with Furazolidone.

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66—Rot-Proof Barn Siding

Complete information about a barn siding that needs no painting and is completely rot-proof is available from the Ruberoid Company. Send for this material today.

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67—Fertilizer Placement

This booklet from the American Potash Institute, Inc. contains 40 pages of the latest information on placing fertilizer. This helpful booklet is yours for the asking.

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68—Building Handbook

A 72-page handbook from the Homosote Company tells about a new method for applying roofing material. Order your copy by circling the postal card number below.

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74—Pfizer Contest Kit

The sixth Annual Pfizer Livestock Judging Contest is now underway. Your students will want to participate in this annual event. You can get a free contest kit, including entry blanks and official judging poster, by circling the postal card number below. This kit also includes a slidefilm entitled "How to Judge Livestock." All materials are in a book-like container that fits right on your bookshelf. Every farm youth in the U. S. under 18 years of age can compete. The contest closes April 19. Send for your contest kit today.

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What's new in . . .

CROP HUSBANDRY

By O. N. Andrews

Carbon Dioxide and Corn Yields

Much progress has been made in corn production during the last 25 years. The big increase in average yields is due primarily to the use of adapted hybrids and more nitrogen, in combination with increased plant population and other good production practices.

O. N. Andrews

Future improvements will result from research now in progress. Corn breeders have better varieties in their nurseries. New ideas in fertilizer and weed control are under study.

In well-fertilized, thick stands of corn with ample water supplied by irrigation, it is frequently suggested that carbon dioxide becomes the factor limiting yields.

An experiment was started in Mississippi in 1956 to test this new idea. In 1956, neither carbon dioxide supplied with dry ice nor manure increased the yield of corn above that obtained with heavy fertilization, adequate stands, and supplemental irrigation. An advantage sometimes credited to barnyard manure is that it releases carbon dioxide in the course of its decomposition. The experiment is still in progress. Final conclusions have not been reached.

New Oat Varieties Released

Mid-South, a new oat variety, was released to growers in 1957 by the Mississippi Agricultural Experiment Station.

The new oat appeared as a "sport" among large populations of Victorgrain 48-93, which is very susceptible to Victoria blight. This destructive disease caused by helminthosporium Victoriae, a soil inhibiting fungus or mold, sometimes reaches epidemic proportions in the South.

Mid-South is resistant to Victoria blight. It is a good grain producer and also a good forage producer. Like Victorgrain 48-93, it is quite susceptible to stem rust.

Coker's Suregrain, another new oat, was released to growers in the lower South. Suregrain is highly resistant to Victoria blight and to all the 22 known races of smut in the U. S. This variety is also resistant to the race 216 group of crown rust races which in recent years have come in to attack the varieties which presently cover the greater part of the oat acreage in the middle and lower South.

Fall Pasture Management

Young seedling clovers, such as crimson or white, will not volunteer early in the fall on a tall Bermuda or carpet grass sod. Removal of grass residues in the fall often makes the difference between an early volunteer stand of clover and a late stand or possibly a complete failure. Experimental results in Alabama show that close grazing, close mowing, or light disking in the fall favor early clover establishment. A deep, undisturbed sod was found to retard clover severly and result in very little winter grazing.

Crimson Clover Tops

Crimson Clover has produced earlier grazing and more total forage than any other winter legume tested in Alabama. Clovers compared with crimson in several years' tests were Ball, Mike, Rose, Louisiana, and Kenland Red, Subterranean, Louisiana S-1 White, and Button. The best of this group produced only 72 percent as much as crimson. All were much later than crimson.

High Quality Winter Pasture

Young oat pastures provide top-quality forage for milking cows. Experiments show that cows fed young oat forage produced considerably more milk than those fed good alfalfa hay as the only forage. This was also true in the case of cows getting half their forage from green oats and half from

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KENNETH RIPPEL, (right) progressive farmer of Asbury, Mo., rigged up this self-unloading feed truck to save himself some back-breaking labor.

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Mr. Rippel, shown here with Texaco Consignee G. W. Edge, Pittsburg, Kan., is a booster for Texaco products, including Fire Chief gasoline. He likes its superior fire power which results in low cost operation of machinery. Like good farmers in all 48 states, he knows *it pays to farm with Texaco products.*

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L. B. LAWSON, farmer near Crowley, La., (right) gets neighborly, dependable delivery of Advanced Custom-Made Havoline Motor Oil from Texaco Consignee M. A. Bergeron. Havoline cleans as it lubricates, gives added power, longer engine life and more gasoline mileage.

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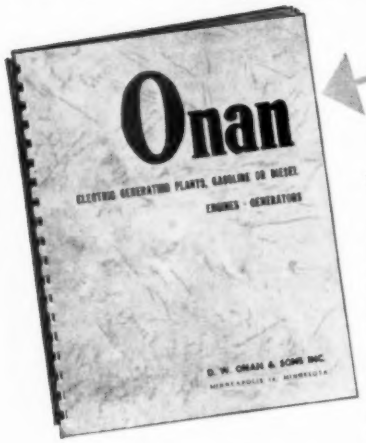

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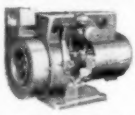
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More and more hog growers are demanding Hampshires to get that extra pig per litter, more pounds of consumer approved red meat per head, and higher dollar value of carcass. Hampshires wrap up in one package a maximum of prolificacy, motherly instinct, rapid growth, economy of gain, foraging ability, and well muscled carcass quality insuring efficient, profitable, and satisfying pork production. Count the Hampshire belts on the farms across the cornbelt for proof of farmer preference. Hampshires consistently weigh better, grade better and cut better than estimated. You can buy Hampshire strains that are Certified as superior, productive meat hogs. Write for literature about this leading breed and its Certified Meat Hog Program.

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1111 MAIN ST., PEORIA, ILLINOIS

SPECIAL
Send $2.00 for one year subscription to Hampshire Herdsman, breed magazine. Keep informed on meat hog production, selection, and improvement.

alfalfa. These results suggest that farmers with limited acreages of oats can get near-peak milk production by grazing their cows a short time each day and feeding them all the high quality hay they will eat. The energy values of nutrients from the oat and alfalfa forage fed in the tests were similar, but the cows ate more of the oat forage.

Silage Flavor in Milk

Alfalfa silage fed to dairy cows causes more silage flavor in milk than either oat or Sudan grass silage. In these tests, the strongest flavor resulted from feeding alfalfa silage during the last hour before milking. There was not appreciable silage flavor when alfalfa silage was fed more than four hours before milking, or when oat or Sudan silage was fed as much as two hours before milking.

Clover Rooting Depths

Ladino and Intermediate white clover have almost identical root patterns and both are deep-rooted crops. Recent studies by the Agricultural Research Service show that both crops can absorb measurable amounts of moisture as deep as 30 inches. Most of their roots are in the surface one foot, and this layer furnishes about three-fourths of the moisture requirements in well-drained, medium-textured soils.

Improved Sweet Sorghum

A few years ago, a farmer growing sorgo for sirup or silage had to accept low yielding varieties because he had no choice. Too, even if he preferred a certain variety, unless he saved his own seed, he was not sure from one year to the next the crop he harvested would turn out to be the variety he thought he planted.

The situation is quite different now. New, high-yielding varieties have been developed and a farmer can buy certified seed. Now a sorghum grower can look ahead to harvesting a good crop of sorghum if he plants pure seed of a new, improved variety, and uses other good production practices.

Sart, Tracy, and Wiley are varieties that have been released during the last few years. These new varieties were developed at the USDA Sugar Crops Field Station near Meridian, Miss.

Fertilizer Placement Pays Off

Proper fertilizer placement pays off in increased early fall grazing. It is especially important to place phosphorus near or in contact with small grain seed for maximum early fall grazing.—*End*

Wyeth

WYETH
ANIMAL HEALTH TOPICS

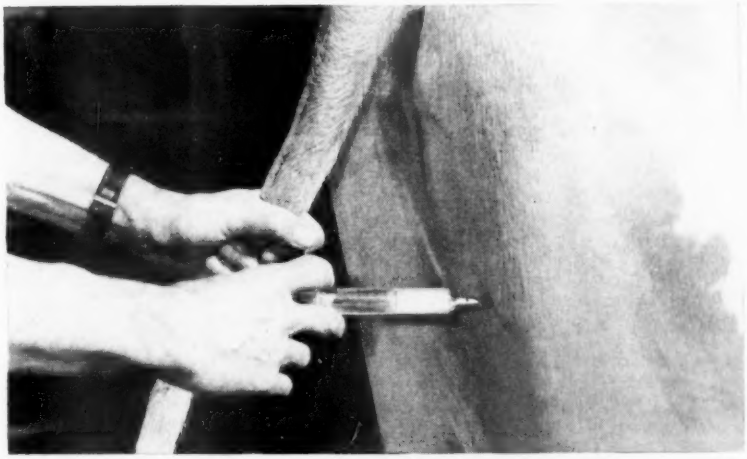
Wyeth

INJECTION BICILLIN® FORTIFIED PREVENTS AND TREATS CATTLE DISEASE...WITH ONE SHOT!

Wyeth's INJECTION BICILLIN FORTIFIED is the *one-shot* antibiotic with *dual action*. INJECTION BICILLIN FORTIFIED provides high, initial blood levels. Then it extends protective blood level concentrations *for periods as long as five days*—providing lasting safe-guards against reinfection and relapse.

Since raw spring weather contributes to an increased incidence of disease, this time of year calls for additional time and work for the livestock owner. INJECTION BICILLIN FORTIFIED gives *effective* animal health maintenance with a minimum of time-consuming effort.

INJECTION BICILLIN FORTIFIED prevents *and* treats pneumonia and shipping fever. It is also widely used in treating *and preventing* foot rot and navel ill. It is available in vials of 10 and 50 cc. (with 300,000 units per cc.), in Tubex® sterile-needle units of 1 cc. (with 600,000 units per cc.), and in disposable syringes of 4 cc. (with 2,400,000 units each).



31.4% OF ALL CALF DEATHS FROM DISEASE ARE CAUSED BY SCOURS!

Not only that, but a recent "Hoard's Dairyman" survey reveals that 57.5% of calf scours occur during the winter months!

There's no question of the seri-

(CALF DEATHS—Continued)

ousness of calf disease, with its vicious cycle of increasingly severe diarrhea and debilitation that may lead to death. BOLUS KAO-STREP® with Vitamin A offers the livestock owner an outstandingly effective agent against scours.

BOLUS KAO-STREP with Vitamin A acts *fast*—with a carefully balanced formula that provides comprehensive therapy.

BOLUS KAO-STREP contains *all five* vital anti-scours ingredients: Streptomycin to kill E. coli, the calf scours bacteria; Kaolin, Pectin and Alumina to coat, soothe and protect irritated intestinal walls; and Vitamin A to help increase the calf's resistance to infection and speed healing processes.

BOLUS KAO-STREP with Vitamin A is also highly recommended for swine dysentery. It is available in packages of 2 boluses (single treatment) and 10 boluses (multiple-dose).

TRIBIOTIC® OINTMENT PROMOTES RAPID PINK-EYE RECOVERY

Two characteristics of pink-eye (or infectious keratitis) are its rapid onset and rapid spread.

TRIBIOTIC OINTMENT acts *fast* against pink-eye, with an exclusive, "3-way" formula of proved effectiveness. TRIBIOTIC contains penicillin (100,000 units), dihydrostreptomycin (50 mg.) and bacitracin (5000 units), which, combined with its special spreading base, produces thorough coating of the infected eye surface and rapid, safe recovery.

TRIBIOTIC, also widely used against mastitis, is packaged in convenient squeeze tubes of 3.75 Gm. Each tube has plastic nozzle for easy application.

To Keep Animals Healthy *Economically*
RELY ON *WYETH* ANIMAL HEALTH PRODUCTS
Proved *Safest!*

Farm MECHANICS

for school and on-the-farm

Selecting Electrodes for Welding

By T. J. Wakeman
Virginia Polytechnic Institute
Blacksburg, Va.

● LAST month I mentioned three electrodes for welding mild steel: E6011, E6013 and E6024. The following are American Welding Society classifications:

The E6013 electrode is a general purpose all-position electrode. It is easy to use, gives a neat, easily cleaned weld. It is the best rod to use for the beginner. He should practice flat and horizontal welds with this electrode. Other welds can be made but the difficulty of the metal dropping, and sagging may be encountered. This rod gives ample penetration for average farm welding. If only one rod were purchased this would be the one. A beginner can use this rod vertically down and as a contact rod too, by adding more amperage.

The E6011 would be the second rod to buy. This rod will give a deep penetrating weld with a rough surface. More skill is required to use this rod than is required to use the E6013. After the learner has used the E6013 successfully, only slight difficulty will be encountered in learning to use the E6011 rod. It is doubtful if the learner should use the E6011 rod first because of the difficulties that may be encountered that could spell failure in the minds of the learner.

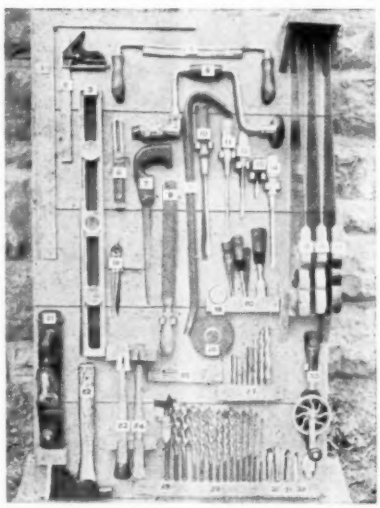
The E6024 rod would be the third mild steel electrode to include in your teaching supplies. This is a contact rod with iron powder in the flux. This electrode gives slightly less penetration than does the E6013, but sufficient for most farm welds. It is easy to use in the flat and horizontal positions. If more strength is needed than one bead will give, more beads may be added in most situations. The beads are almost self cleansing if the proper amperage is used. The large amount of flux on the rod gives the molten metal ample time to spread out smoothly. More amperage is required to use this electrode due to the powdered iron included in the flux. On farm welders it is advisable to order electrodes one size smaller than you would where ordering E6011 or E6013 electrodes. If you have been using ⅛″ electrodes, order your E6024 electrodes in the 3/32″ size. The 3/32″ E6024 electrode is especially useful in welding vertically down on light metal.

Special Rods

The multitude of salesmen will cause you concern on what other rod to buy. Until you have mastered mild steel welding, have your special jobs done at a commercial welding shop. However, when you are ready for other welding, give consideration to these:

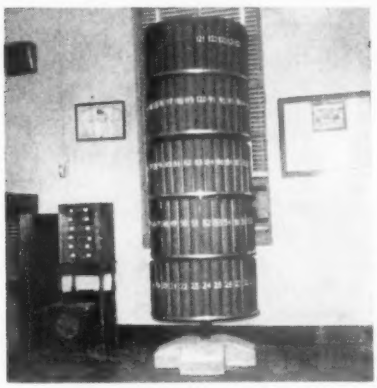
1. For a contact hard surfacing electrode—follow the instructions on the container closely — purchase 3/32″ electrodes if available to reduce the burn through on thin metal. Practice on thin metal and place a back-up strip of copper tightly against the metal to be welded to help prevent burn through. Select the proper electrode to meet the conditions of your soil relative to impact and wear.
2. A contact low-hydrogen electrode for hardenable steels. This electrode helps prevent under-the-bead cracking.
3. A nickel electrode for welding thin casting motor blocks and the like where excessive strength is not needed and welding time is a factor—cost per pound is high.
4. A general purpose cast iron electrode, usually is a mild steel electrode with cast iron flux. Has excellent holding characteristics. Much time is consumed in doing the job to prevent cracking. Cost per pound is low.
5. Stainless steel electrodes to be used where corrosion or heat is important. It is also used to weld dissimilar metals together.
6. Copper coated carbons to be used in a carbon arc torch on AC welders for heating, bronzing, soldering and other jobs.

There are electrodes available for welding aluminum, copper, pewter, and other special metals. More time is needed to perfect electrodes where the average welder can do a satisfactory job. When using any electrode, follow the instructions of the manufacturer.—*End*



TOOL PANEL—This panel can be used for storage of tools in the vo-ag department and on the farm.

Build This Bookshelf



ROTO-BOOKSHELF—This is a very useful item around the classroom, office, or shop. The roto-shelf bookshelf can save up to as much as 75 percent on space that is ordinarily used by standard wall-type shelves. Classroom notebooks, textbooks, and other reference materials can easily be handled on the circular shelves. In addition to books of various sorts, this stand will also serve as a display shelf for special events or subject matter presentation.

This roto-shelf book stand has five 30-inch shelves made of one-half inch plywood. The shelves are mounted on brackets welded to a 15-inch piece of 3-inch conduit pipe. This shelf section is then slid over a piece of 7-foot conduit which has a diameter a size smaller to permit free-wheeling of the shelf. The 7-foot center pipe is mounted in a concrete base of sufficient size (30-inch diameter and about six inches deep) to permit necessary steadiness. Each shelf section is separated by a 2-inch spacer which has been drilled and tapped for set screws. These spacers are made from 3-inch conduit.—*Forrest Wilson, vo-ag instructor, Nashville, Tenn.*

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Writes MR. WARREN MEIER, R #1, Ridott, Illinois

"I like my Dari-Kool because it is so easy to keep clean. Milk does not stick to the cold, moist walls of the tank, so there has been no formation of milk stone. I would certainly recommend Dari-Kool to anyone interested in the purchase of a bulk milk cooler!"

(signed) Warren Meier

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When you buy your legume seed be sure to ask for the inoculant in the familiar orange package. Only Nitragin guarantees the bacteria count... billions per bushel of seed. These are high nitrogen-fixing strains that assure a good catch. Nitragin's superior peat humus base is a perfect medium for the bacteria — and for quick, easy inoculation. Important too, each package is dated to assure you of fresh, virile bacteria at all times.

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NITRAGIN

THE NITRAGIN COMPANY

3249 W. Custer Avenue, Milwaukee 9, Wisconsin

THYROPROTEIN

What do researchers have to say about this additive for dairy cattle rations?

● THYROPROTEIN. Mention this word in any group of agricultural researchers and you'll probably get several different reactions. Comments may range from complete endorsement to condemnation.

Just who is right? Does this compound really boost the milk output of the dairy cow?

"Better Farming Methods" wanted to find the answer to these questions. We thought ag leaders should know the facts about this product, so we went through stacks of published research and magazine articles on the trail of the elusive question: "Can thyroprotein boost milk production?"

We found all sorts of opinions about the use of this feed additive. But, among the state experiment stations, the pros had more supporters than the cons. Most researchers agreed that thyroprotein does increase milk production.

Comments generally, though, pointed to the fact that thyroprotein is not for the mediocre dairyman—at least not at the present—but might be considered by top-notch dairymen who already provide their herds with the ultimate in feeding.

One of the leading thyroprotein researchers, Dr. Charles W. Turner, University of Missouri, told the "Eastern Feed Merchant" in answer to the question, "Who should feed thyroprotein?" "Any dairyman with cows having the inherited ability to produce large quantities of milk—provided he remembers and practices a few basic principles.

"Thyroprotein is a hormone milk stimulant, not a feed. It does not take the place of good feeding and good milking practices."

Here are some other comments and findings gleaned from thyroprotein research over the past few years.

Says Dr. Eric W. Swanson, University of Tennessee, "As with nearly every scientific development, there has not been complete agreement among researchers that have worked with thyroprotein. However, there is agreement that the hormone is effective when fed, and there is further agreement that it will increase the milk flow of most good cows above their normally expected levels.

"Thyroxine feeding for dairy cows is now past the experiment stage. It has been shown that moderate Thyroxine dosage fed for part of the lactation does not adversely effect the health or longevity of milk cows. The use of Thyroxine may or may not result in economical returns, depending upon the management of the treatment program, the degree of response, the value of the milk, and the extent to which post-treatment production is effected. A test of Stimulac (trade name under which thyroprotein is sold) in Georgia and South Carolina, showed that 136 cows in eight herds had an increased production of 20.02 percent during a 98-day test period."

In the November, 1956 agricultural research publication of the USDA, a report said in part: "Many previous trials have shown that thyroprotein, available to dairymen in commercial feeds for a number of years, increased their production as much as 20 per-

(Continued on page 62)

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Ideas That Work

You Can Build This Cleaning Solution Tank

You can clean all the dirty and grease-covered items in your farm shop without worrying about spilling the solution with this homemade cleaning solution tank.

It is made from a junked washing machine with the bottom drain hole sealed. If the unit is too high to roll under your workbenches, the legs may be shortened as a shop exercise.

To complete the cleaning tank, build a platform about 5 inches off the bottom of the washer with hardware cloth and fill the tub two-thirds full of a special cleaning solution from the local petroleum dealer. This piece of equipment will end worries about using kersone, diesel fuel, or gasoline as a cleaning solvent.—*Forrest Bear, vo-ag instructor, Sumner, Ia.*

Here is A Way to Save That Cleaning Solvent

This cleaning solvent saver has reduced the amount of cleaning solvent used annually in our vocational agriculture mechanics shop. The unit consists of three barrels—one 30 gallons, and two 15 gallons. To operate this "Economizer", solvent is taken from barrel No. 1 for the first rinse on paint brushes. After rinsing, the solvent is poured into the funnel on barrel No. 2. Then the process is repeated as necessary to remove the major portion of the pigment from the brush. For the final rinse, clean solvent is taken from barrel No. 3 and the brush is given its final rinse, and the solvent again is poured into barrel No. 2.

Once a week, we open the valve on barrel No. 2 and the solvent drains into barrel No. 1. This leaves any pigment collected in the bottom of barrel No. 2.

By using the outfit, the cleaner consumption in our shop has been reduced from 100 gallons to approximately 25 gallons annually.—*Samuel Stenzel, vo-ag instructor, Almena, Kans.*

Do you have an idea that works? Better Farming Methods will pay a minimum of $5 for accepted ideas or teaching techniques that you have used successfully in YOUR work with FFA, 4-H, or farmers.

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Better Farming Methods

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There is a dependable way to measure a publication's value: *Ask the readers.*

Through an independent survey, 2345 vo-ag teachers, county agents, and soil conservationists were asked: *Which of the three principal leader publications they found most helpful.* Among agricultural leaders who receive all three publications, *BFM is preferred 3 to 1 over the second publication in the field.*

This survey, completed in April, 1957, gave the same result as every survey since 1947.

• Preferred by MANUFACTURERS

There is another way to measure any publication's value: *Ask the manufacturers who advertise their products in it.*

Again in 1956, Better Farming Methods led the second publication in advertising revenue by 45 percent and the third publication by 167 percent.

Manufacturers invested $238,621 in advertisements they placed in Better Farming Methods during 1956.

Professional Magazine for Leaders who TRAIN and ADVISE Farmers

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BPA

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What's new in . . . Dairy Husbandry

By Jesse B. Williams
University of Minnesota

Calories for T. D. N.

Animal nutritionists have not been entirely satisfied with our present means of evaluating feeds. Many years of painstaking effort have gone into the tables of allowances currently in use. Evidence is beginning to accumulate in recent months to replace our present Total Digestible Nutrient method of calculating the feeding value of feeds. One of the problems has been how best to use the current tables and convert them to digestible energy tables.

A study by R. W. Swift, animal nutritionist, Pennsylvania State University, of data obtained from 312 digestion experiments in which digestible energy and total digestible nutrients were experimentally determined revealed that one pound of total digestible nutrients is equivalent to 2000 calories of digestible energy. This value was found to apply to sheep and cattle on roughage alone and to cattle on mixed rations.

Grinders on the Way Out

Crimping, rolling and crushing mills are appearing on many farms. Advocates of these mills feel that they fit into our mechanical feeding schemes to a better advantage, require less power, and lower the dust hazard. Such units can be installed to automatically combine several ingredients and mix them prior to processing. In addition, freshly prepared feed is available for each feeding.

Research workers at Cornell and New Hampshire have shown in previous years that crimped oats were more digestible than ground oats. Becker and co-workers at the Florida station fed crimped oats to 8-month-old dairy calves, 18-month-old heifers, and Jersey cows and found that the voided losses from crimped oats were 0.77 percent or less.

"Oops—I thought you was my husband!"

Watch for Sorghum Varieties

Uncertain weather conditions the past 2 years have greatly increased the acreage planted to sweet sorghum to be used as a silage. Sorghum silage has been reported to have approximately 75 percent or more of the feeding value of corn, depending on the ear content of the corn silage. Lack of suitable harvesting equipment and heavy lodging during wet seasons have limited sorghum plantings in the midwest. Atlas sorghum has been ensiled in the South for a number of years and has been a dependable source of forage because of higher tonnage yields per acre than corn. Dairy husbandmen at Mississippi State College found that dairy cows produced more milk, ate more silage, and gained more weight on corn silage than on Sart, Tracy, or Texas seeded-ribbon silage. They noted that Tracy sorghum produced a stronger silage flavor in the milk than the other silages.

Beef Supplements for Dairy

More work has been completed recently involving the use of stilbestrol in rations for dairy cattle. An experimental trial at the Agricultural Research Center, Beltsville, Maryland by Wrenn and Sykes showed no effect on milk production when the stilbestrol was fed for 60 days. Foreman and Porter, Iowa State College, found that stilbestrol seemed to increase persistency in milk production. Kansas Agricultural Experiment Station workers report that hormone-fed cows produced more milk than their pair mates. Identical twin cows were fed during complete lactations and

WEED-KILLING "BLANKET" IN ACTION! All celery planted same time. Only difference: celery at left was band sprayed once with Vegadex at planting. Results like this last year saved commercial growers from $20 to $90 an acre on hand-weeding costs.

THIS NEW WEED-KILLING "BLANKET" CAN SAVE YOU $20 TO $90 PER ACRE IN VEGETABLE CROPS

It's Vegadex,® and it kills weeds for you in a new way. You spray it only once—at planting time. Vegadex forms an *invisible chemical blanket* over your soil that smothers weeds. Pesky annual grasses—even tough weeds like purslane and henbit—sprout, touch the "blanket," and die. Because weeds seldom appear, Vegadex can cut labor costs for hand weeding as much as $90 per acre. Your vegetables come through unharmed, with no weeds to fight them for sunlight, water and plant food. And Vegadex won't "build up" in your soil, even if you spray each time you plant.

Before you plant your next crop, drop by your nearest Monsanto Farm Chemicals Dealer. He'll tell you how Vegadex adds extra profits to every acre of vegetables you harvest.

GROW MORE PROFITABLY Monsanto FARM CHEMICALS

Make sure you're spraying right. Ask your Monsanto Dealer about the special offer on the SPRAY-RATER that accurately measures the amount of spray your rig applies per acre.

VEGETABLE GROWERS! New Vegadex kills off annual grasses and many broadleaf weeds in greens, garden beets, cole crops, beans and corn.

"My Groen Round Bulk Milk Cooler is 275 gallon capacity, and there is plenty of room in milkhouse for a close-coupled compressor. Groen 'Cold-Flo,' Serpentine Cooling (bottom of tank only) is fast, economical and there's no condensation on walls."
Ralph P. Smithyman
Rubicon, Wis.

Wisconsin Farmer

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WITH

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BULK MILK COOLER

T.M. Reg.

Groen's 50 years' experience making fine equipment for the dairy and food industry gives you many benefits. Mr. Smithyman is one of many owners who have found that Groen Guardsman Bulk Milk Coolers guard your milk, protect your profits.

New Low RWL Model 5" Lower

MEETS 3-A STANDARDS

Round Models, RW and RWL, available in 100 and 340-gal. sizes. Choice of close-coupled or remote control unit.

COSTS LESS TO INSTALL: Groen's compact design usually fits milkhouse without alteration.

"COLD-FLO" Serpentine Refrigeration, originated by Groen. Bottom cooling only. Maximum sanitation.

TWO BLADES, double stirring, even cooling. Assures you of accurate butterfat tests.

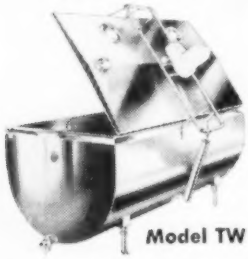
EASY POURING: As low as 34 inches from floor to rim.

DIRECT EXPANSION COOLING provides perfect cooling. Proved most economical by University tests.

LIFETIME STAINLESS STEEL inside and out. Smooth as glass. Cleans easily. Cuts tank maintenance. TEN-YEAR WARRANTY available, also financing plan and assistance.

AG LEADERS: Send for your copy of colorful Groen catalog. Compare other bulk coolers with the popular Groen Guardsman. It has extra values and exclusive features that are important.

Only Groen offers a choice of Round or Trough-Type tanks. Model TW below has exclusive "Spring-Lift" one-piece cover. Trough-Type models in 320 to 600-gal. sizes. A size for every dairy herd.



Model TW

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☐ I'm a farmer ☐ a student ☐ other

seemed to be more persistent in milk production when fed stilbestrol. They found no difference in butterfat or total solids in the milk.

Lower Digestibility, Faster Gains

Animal behavior patterns are receiving more attention now than in former years. Work with sheep, steers, and dairy cattle now involves grazing patterns on various types of forages, rumination time, food gathering time, and frequency of excretions. Dairymen for some time have known that milk production is increased slightly when stabled cows are fed several times daily. Now Virginia Polytechnic Institute research people have found that body weight gains in heifers are increased when frequent feeding is practiced. The same daily feed allowances were given the animals with one group being fed twice daily and the other group being fed 10 times daily. However, the frequent feeding schedule seemed to decrease digestibility. —*End*

THYROPROTEIN

(Continued from page 58)

cent in some cows for short periods. Total milk produced for the entire lactation, however, was not increased by the use of thyroprotein when it was fed either for short periods or throughout the lactation.

"More recent experiments have shown widely varied responses among individual animals. The test also demonstrated once more the seemingly inevitable drop-off in milk output once the drug is eliminated.

Other researchers taking issue with these USDA statements said their cows had been bred normally with proven sires for several years and might naturally have a high rate of thyroid hormone secretion.

Says Professor S. A. Hinton of the University of Tennessee, "Feeding thyroactive supplement to good dairy cows, well past the peak of lactation, for 100 days in the fall and winter has proved to be an economical practice. The average daily increase in production of eight cows compared to eight normal control cows was 7.4 percent. This results in a profit above feed costs of $24.25 more for each cow in the supplement group."

Recent research at Iowa State has shown that thyroprotein may have some promise as a supplement in lactating sows' rations. Dr. Damon V. Catron, who has been in charge of this work at Iowa State, points out that in their tests so far they have weaned an extra ⅓ to ½ pig per litter when thyroprotein was added to sows' rations.—*End*

Mower-crusher gets curing off to fast start

Rolabar rake forms fast-drying windrows

Hayliner 68 ties uniform, quick-drying bales

Crop dryer and wagons dry 10 tons overnight

Hay-in-a-Day!

New haying system reduces farmers' dependence on weather . . . saves nutrients for top-quality hay.

Both of these requirements are met by New Holland's Hay-in-a-Day system.

Hay-in-a-Day is made possible by the use of a team of machines that work fast, promote quick drying and handle hay gently. It helps a farmer move hay from standing crop to storage in as little as 24 hours.

Mowing and crushing in one early-morning operation makes it possible to rake by early afternoon. Baling begins in the mid-afternoon. Bales are stacked directly on crop drying wagons which are then hitched to an automatic crop dryer—which overnight brings the hay down to the proper moisture content for storage.

The result is green, leafy hay rich in nutrients—the kind of hay that can reduce or even eliminate costly supplemental feeding. For complete details, write for our *free* Hay-in-a-Day booklet. New Holland Machine Company Division of Sperry Rand Corporation, New Holland, Pennsylvania.

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324 Ferry St., Lafayette, Indiana, Dept. BFM-3

HERE AND THERE WITH THE FFA, 16 mm., sound, color, 22 minutes. Available from Farm Film Foundation, 1731 Eye St., N. W., Washington 6, D. C.

This beautifully colored film from the New Idea Division of Avco Manufacturing Company is one you'll want to show your own vocational agriculture students. It is an inspiring film which should help you explain the high ideals of the FFA organization.

The film begins with a short explanation about FFA by Dr. W. T. Spanton, Chairman, Future Farmers of America Foundation, Inc., and then carries you on a colorful tour of some of the nation's leading vo-ag departments. FFA boys are seen in various projects ranging from safety to preparation of a school farm.

This film is also ideal for explaining to those outside FFA just what the organization is. "Here and There With the FFA" is a film you will certainly want to use.

MAKE MINE CHICKEN, 16 mm., sound, b/w, four minutes. Available from the Poultry and Egg National Board. Order from the office nearest you: 30 Huntington Ave., Boston 16, Mass.; 250 West 57th St., New York 19, N.Y.; 870 Market St., San Francisco, Calif., or 329 Agriculture Bldg., Atlanta 3, Ga.

This cartoon-type film shows chicken at its best. The world-wide acceptance of chicken is emphasized as well as the favorite "native" chicken dishes of many nations. Helpful hints on the selection and preparation of chicken are presented by the folk-singing narrator.

ENERGETICALLY YOURS, 16 mm., sound, color, 13 minutes. Available from the Standard Oil Company (New Jersey), Room 1610, 30 Rockefeller Plaza, New York 20, N.Y.

This outstanding film tells how agriculture was revolutionized when man unlocked the energy sleeping in fuels and harnessed electricity. The cartoon-type film explains how energy has benefited the farmer and mankind generally—from primitive man's discovery of fire to modern man's unleashing of the atom. The film is entertaining as well as informative, and has been internationally acclaimed.

"Energetically Yours" was nationally televised late last fall, and television critics hailed it as "superb", "excellent", "enormously imaginative", "a classic", etc.

HOLD YOUR HORSES, 16 mm., sound, color, 22 minutes. Available from Modern Talking Picture Service, Inc., 3 East 54th St., New York 22, N.Y., and Farm Film Foundation, 1731 Eye St., N.W., Washington 6, D.C.

"Hold Your Horses", produced at Iowa State College with the cooperation of 4-H clubs, tells how to maintain the horsepower of your tractor by year-round cooling system care. Such subjects as "Tractor Safety", "Ignition", "Cooling Systems for Engines", "Oil for the Engine and Hydraulic System", etc., are discussed. Presented with a bit of homespun humor by Dale O. Hull, extension agricultural engineer at Iowa State, the 4-H'ers in the film go through a course of instruction on tractor cooling system care. After seeing this film, you will probably wonder if the farm boy of today is teaching his dad better methods of maintenance and operation for the farm tractor to increase its life.

ON THE PRACTICAL SIDE, 16 mm., sound, color, 12 minutes. Available from the Masonite Corporation, Box 777, Chicago 90, Ill.

"On the Practical Side" is the real-life story of a practical farmer told in beautiful color and sound. The dynamic movie dramatizes an easy and economical way of bringing farm buildings up to date. It is of interest to everybody, and is designed to help farmers get the maximum return from their building dollars. You'll see actual shots of buildings being remodeled with modern materials and methods.

ANT CONTROL, sound, color. Available from Velsicol Chemical Corporation, 330 East Grand Ave., Chicago 11, Ill.

A new color-sound film and a new flannelgraph kit on ant control are now available to ag leaders. The film covers the life cycle, habits, and control of ants. The flannelgraph kit contains 28 pieces in a variety of shapes, colors and sizes. The illustrations are simple, large, and dramatic. A complete suggested narration and instruction sheet are included in each kit. The ant flannelgraph is free on a permanent basis; the film is free on a loan basis.—*End*

Here's where

magnesium deficiencies steal top profits:

Black areas on this map show where soils may contain no reserve of magnesium. In some sections—such as parts of the Atlantic Coast where potatoes, vegetables, tobacco, and citrus are grown—experiment station and soil tests have established 90% of the land to be magnesium-deficient.

Here's why

magnesium deficiencies steal top profits:

Leaves lose their green color and carbohydrate manufacture stops, because magnesium is the only metal in the chlorophyll molecule. When magnesium is missing, the plant's chlorophyll breaks down between leaf veins. Yields drop, and it's too late for top profits.

Here's how

magnesium deficiencies can be stopped!

The SPM seal means that premium fertilizer contains fast-acting, readily-available, water-soluble magnesium from Sul-Po-Mag,® also called SPM, to stop magnesium deficiencies *before they start*. Sul-Po-Mag will hold the soil magnesium level up—deficiency and crop loss cannot occur. The SPM seal is the user's guarantee that the fertilizer he applies contains genuine

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For What It's Worth

By FRANK WADDLE, Editor

On Professional Pride

We were happy to receive letters from many of you about the topic discussed on this page last month, "Why don't ag leaders have more pride in their profession."

Because of your interest in this problem, I'd like to share with you a bit of information that helps to describe the importance of the ag leader in the future of our country. This material, originally presented at a workshop for Extension workers at Cornell University in 1950, was written by Glenn Frank and entitled, "Salesmen of Knowledge."

Salesmen of Knowledge

"The future of America is in the hands of two men—the investigator and the interpreter. We shall never lack for the administrator, the third man needed to complete this trinity of social servants. And we have an ample supply of investigators, but there is a shortage of readable and responsible interpreters—men who can effectively play mediator between specialist and layman.

"The practical value of every social invention or material discovery depends upon its being adequately interpreted to the masses. Science owes its effective ministry as much to the interpretive mind as to the creative mind. The knowledge of mankind is advanced by the investigator, but the investigator is not always the best interpreter of his discoveries. Rarely, in fact, do the genius for exploration and the genius for exposition meet in the same mind.

"The interpreter stands between the layman, whose knowledge of all things is indefinite, and the investigator whose knowledge of one thing is authoritative.

"The investigator advances knowledge. The interpreter advances progress.

"History affords abundant evidence that civilization has advanced in direct ratio to the efficiency with which the thought of the thinkers has been transplanted into the language of the workers. Democracy of politics depends upon democracy of thought. When the interval between intellectual classes and the practical classes is too great the former will possess no influence, the latter will reap no benefit.

"A dozen fields of thought are today congested with knowledge that the physical and social sciences have unearthed, and the whole tone and temper of American life can be lifted by putting this knowledge into general circulation. But where are the interpreters with the training and willingness to think their way through this knowledge and translate it into the language of the street?

"I raise the recruiting trumpet for the interpreters."

"Stop throwing those—WOW! NICE SHOT!—snowballs at him."

How We Get Readers

Many of you probably wonder just how you happened to get on the mailing list for "Better Farming Methods." And who pays your subscription to the magazine?

First, let's talk about how your name got on the mailing list. This will depend on what branch of ag leader work you're in. If you are with the Extension Service, we got your name from the state Extension office. Vo-ag teacher lists came from state vo-ag departments. And for other ag workers included in "BFM" circulation, the same procedure was followed: We got your name from state headquarters of your organization. We revise these lists once each year.

Now, the question: "Who pays the subscription price?" Actually, there is no subscription charge for ag leaders who receive "BFM". It's a magazine distributed under what is termed "controlled circulation". This simply means that "BFM" is authorized to send free copies of each issue to an approved list of readers. The actual cost of producing the magazine is paid by the advertisers.

But it's your magazine! We hope you like it.

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AND

EXPERIENCED POULTRYMEN

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Nation's Farmers Report on 1957 Corn Yields

GOOD FOR SOME—TOUGH FOR OTHERS

The 1957 corn growing season was one of extremes. Wet weather held up planting and drowned out crops along the Minnesota and Indiana river bottoms. Later, droughts and hot winds damaged crops in a "hit or miss" pattern from coast to coast. But 4,790 farmers representing 37 states and Canada in DeKalb's National 1957 Selected 5-acre Corn Growing Contest, proved once again that farming "know-how" and good seed corn can bring in high average yields.

203.47 BUSHELS PER ACRE*—WOW!

Henry Penning, Decatur, Michigan is the new 1957 DeKalb National Selected 5-acre Corn Growing Champion. His field of DeKalb 402 was grown on Muck soil. Giving the Champ a "run for his money" was Robert L. Maulden, Pasco, Washington with a "whopping" 195.03 bushel to the acre yield.*

4,790 Farmers from 37 States and Canada report yields which average 109.17 bushels per acre.*

WORLD'S LARGEST FAMILY

During the past 19 years, over 70,000 farmers in the United States and Canada have participated in the DeKalb National Selected 5-acre Corn Growing Contests. This great family of farmers has averaged around 100 bu. of DeKalb Corn per acre* throughout nearly two decades.

DEKALB—THE "COMMON DENOMINATOR"

It's not unusual for one or more farmers to raise 100 or even 200 bushel corn, but when 4,790 farmers from Delaware to Oregon and Canada to Mexico average 109.17 bu. per acre*, you know it takes more than just good farming...it takes good seed. It's no accident that all of these farmers plant DeKalb...they've found that it stands, matures early and brings them high yields. Is it any wonder more farmers have planted DeKalb for 18 straight years than any other seed corn?

Figures show average state yields* of all contestants.

214 FARMERS BREAK 150 BUSHEL* MARK

214 farmers from 18 states, turned in yields of over 150 bushels per acre.* The state reporting the most "150 bushel and over" yields was Colorado with 40.

CANADIAN FARMERS "KNOW HOW"

Winning over 165 entries from Canada, Charles Lawler, Oxford County, Ontario chalked up a yield of 128.71 bushels per acre.* This is one of the highest individual yields ever reported from Canada. All contestants from Canada made an excellent average of 98.97 bushels of DeKalb Corn per acre.*

"TEAMWORK" MAKES A GREAT NAME

As the DeKalb family of farmers grows, so do the vast DeKalb Research and Testing Programs so necessary for the development of better DeKalb Seed Corn, DeKalb Chix and DeKalb Hybrid Sorghum. This cooperation between DeKalb and its many thousands of customers creates a tremendous force for a better, more profitable way of farm living.

*All yields were made on Selected 5-acre Contest Plots.

DEKALB AGRICULTURAL ASSN., INC.

Commercial Producers & Distributors of DeKalb Seed Corn, DeKalb Chix & DeKalb Hybrid Sorghum.

DEKALB, ILLINOIS